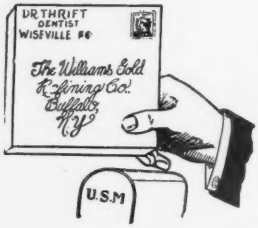
THE DENTAL DIGEST

JANUARY 1920
VOL. XXVI NO. 1
EDITED BY
GEORGE WOOD CLAPP, D.D.S.
PUBLISHED BY
THE DENTISTS' SUPPLY CO.
CANDLER BLDG. TIMES SQUARE
220 WEST 42ND ST. NEW YORK.

WILLIAMS



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THE
DENTAL DIGEST

Vol. XXVI JANUARY, 1920 No. 1

WHAT MAY BE EXPECTED OF FULL ARTIFICIAL DENTURES

By Kent Kane Cross, D.D.S., Denver, Colorado

(first article)

The proverb "No man liveth unto himself" is as true in the field of dentistry as in that of any other human endeavor; and no other branch of our profession shows more need of dependence upon the experience and investigation of others than does prosthodontia. Therein lies the justification of these articles. I owe my interest in this important and much neglected work, the restoration of the lost organs of mastication, to those men with whom it has been my good fortune to associate in active practice, and to present-day leaders in the specialty who have given me inspiration and valuable suggestions through lectures and demonstrations.

In replacing the lost organs of mastication in an edentulous mouth, one should have two aims in view: service or efficiency, and appearance or aesthetics. It is my purpose to discuss methods of attaining the first in the following article.

The endeavor should be, so far as is possible, to duplicate the natural or original organs—provided, of course, they were normal in function and pleasing in appearance. Teeth are primarily organs of mastication and should be used vigorously many hundred times in preparing each meal for the digestive process. The capabilities of a good set of natural teeth are almost beyond our comprehension. A force of several hundred pounds can be exacted by muscles controlling the movements of the jaws; the toughest foods can be reduced to shreds. The fact that they are set in bony sockets, and at the same time are made capable of absorbing shock by the cushion-like peridental membrane, makes their arrangement an ideal scheme.

With our present skill it is now possible to construct full artificial dentures which approach some natural teeth in efficiency; but we must not be satisfied if the patient can merely "wear" them. Neither will it suffice if he is able, in a manner, to crush food with the open and shut motion—the best service expected from the majority of artificial upper "plates." The meager cusp efficiency which some manufacturers supply

M.H

is often destroyed in obtaining an occlusion, while true articulation is many times disregarded altogether.

Care should be taken to obtain close adaptation to the periphery without interference with muscle attachments. The impression should include post-damming, and be extended slightly beyond the juncture of the hard and soft palates. There is no reason to fear gagging, since the wearer will soon become accustomed to the firm pressure in this region. In this connection, attention may be called to the fact that it is the featherlike tickle of the light touch rather than the firm pressure that causes the gagging. The *fear* of gagging is the only unfavorable factor. If care is taken with the lower impression, and the case is a favorable one, an emergency vacuum chamber may be established also, as is proven when the denture is removed. If the case is favorable the patient may be expected to be able to cough, sneeze, and chew gum as well as to masticate ordinary food without danger of displacement of the dentures.

The writer is indebted to Drs. Rupert E. Hall and Dayton D. Campbell for the steps in the following procedure, although he does not claim to follow absolutely the technique of either.

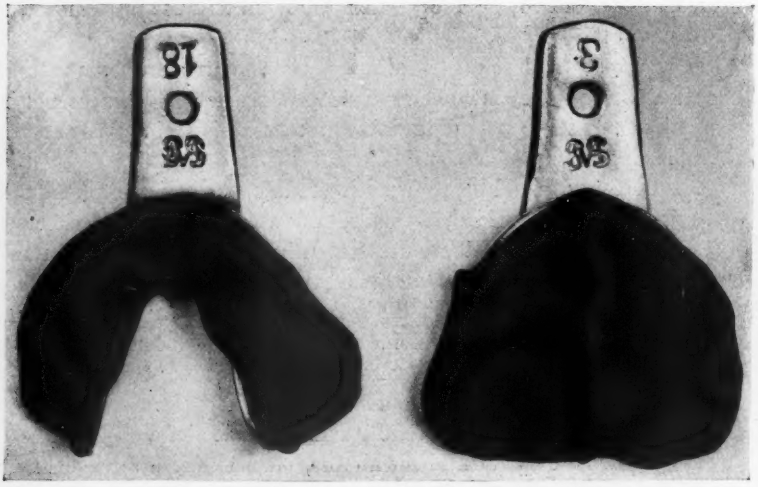


Fig. 1. Impression tray compound as removed from the mouth

TECHNIQUE OF THE UPPER IMPRESSION

Take an ordinary metal tray slightly larger than the ridge. If the border of the tray is so deep that it displaces the tissues, trim with heavy shears and smooth the edges. One that is a little too narrow or too wide, may be adjusted with heavy pliers. In the next step modeling com-

pound may be used, but impression tray compound is much to be preferred, on account of the color contrast to both the plaster and tissues, brittleness, which enables it to be trimmed without distortion, and the extreme temperature necessary to soften it, making it dependable in a warm room. Soften compound in hot water; place it in the metal tray approximating your model, which is the jaw, composed of the alveolar ridge and hard plate. Before placing it in the mouth let a stream of hot water flow over it; if water sufficiently hot is not available, the bunsen flame will accomplish the needed extra heating of the surface.

Place compound lightly over the jaw and remove to see that it has been started correctly. Press firmly against the ridge and palate. Let compound cool, then remove from the mouth and if satisfied that the periphery is well defined, remove from the metal tray and trim compound with a sharp knife. The object of the compound is to make a close-fitting individual tray that does not distort the tissues when placed in position in the mouth, and at the same time allowing no impingement of muscle attachments or fraenum.

Perhaps the most important part in the preparation of this individual tray is the post-damming. This and the peripheral adaptation should be such that the air is expressed as in a well-fitting completed denture. Referring to peripheral adaptation, care should be taken to extend

Fig. 2. Compound removed from metal tray and trimmed, making individual trays. Upper post-dammed with modeling compound sticks and hole bored in centre

the compound well above the condyles buccally. The labial portion should be trimmed thin in the majority of cases to prevent the effect of protruding the lip. Post-damming is effected by tracing hot modeling compound (tracing sticks being preferred) across the back of the black compound, attempting to follow the juncture of the hard and soft palates. Place individual tray in position, using pressure. If in doubt about the effectiveness of the compression add compound and repeat the pressure, but warm only the added compound. When satisfied that the

case is sufficiently post-dammed, heat the posterior edge only, place in the mouth and have the patient swallow two or three times. This prevents the plate from cutting into the soft palate, and at the same time protects against breaking the valve seal.

We must not forget that under no circumstances are we to let the posterior border of the denture rest on the hard palate. Slight movement of the denture would allow the ingress of air, thereby destroying the valve effect, but if it is extended to the soft palate both palate and denture will move together and the seal will be maintained, and the emergency vacuum will force the denture into place again.

The idea of boring a hole in the palatal portion of the individual tray seems to be original with Doctor Hall. Its value will be explained after we have considered the manner in which the plaster is mixed and placed on the tray and in the mouth.

Before taking the plaster impression, it is well to have the patient wash his mouth to free it of excess saliva. Particularly is ropy saliva objectionable. A wash of three drops of silver nitrate in a glass will

Fig. 3. Impressions taken with thin Plaster of Paris

improve an unfavorable saliva. In preparing the plaster use a clean rubber bowl. Be sure that it is free from particles of hard plaster as these may cause the patient to squirm and spoil the impression. Place a sufficient amount of cool or tepid water in the bowl. Salt may be used to hasten setting of the plaster. However, potassium sulphate is preferred, for the reason that there is no effervescence and it is not affected by saliva. Drop a few grains in the water and crush with the fingers, as proper distribution is necessary for uniform setting. Any ordinary impression plaster with good setting qualities may be used, but I find that the finer the grain of the plaster the smoother the impression will be. A sifter considerably smaller than the mouth of the bowl is used and the

plaster is stirred rather vigorously. The stirring hastens the setting, and for the small bulk of plaster used, has no serious effect on its strength.

When well stirred to a consistency at which it is easily poured, the plaster is placed in the compound tray. The tray and plaster are pressed firmly into position. The patient then closes his mouth, and the impression is taken with the jaws in the *rest position*. When the unused plaster shows that it is beginning to set, the tissues over the muscle attachments and fraenum are massaged so as to free them of excess material and impingements.

When the unused plaster breaks with a snap the impression may be removed from the mouth. An equally good test has been suggested by Dr. V. Clyde Smedley: If plaster cannot be crushed between the fingers, it is ready for removal from the mouth. The impression should adhere to the tissues owing to the snug adaptation and extraction of the moisture from the tissues in the process of the setting of the plaster. Aid may be had by loosening it either by raising the lips and applying water from a syringe, or having the patient rinse the mouth. If this fails, have the patient close the mouth and blow, puffing out the cheeks. There is less danger of fracturing the margin if these precautions are taken. A good impression should show compression around the periphery. Care should be taken to get the impression well around the tuberosities buccally. Any saliva present should be washed off.

As soon as the impression has dried sufficiently to unite well with the separating material, it should be applied.

The impression should next be "boxed in" by placing it on a base of mixed plaster; as soon as the plaster has set sufficiently it should be trim-

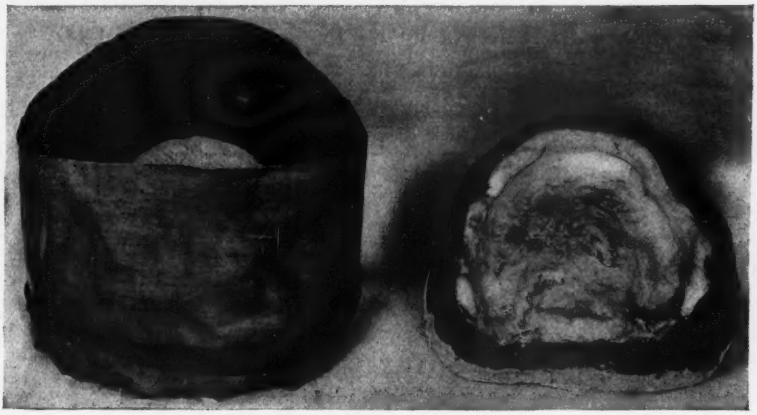


Fig. 4. Impression dipped in flexible collodion, mounted on plaster base, and bordered with plasticine, and same boxed in sheet lead, ready for Spence's plaster and bouncer.

med to the size and the shape the cast is to be. This should be no larger than the flask used if the case is to have a vulcanite base. The boxing should be completed by building up the plaster to within an eighth of an inch of the peripheral border of the impression, as illustrated. It should be carved on a horizontal plane, except where the curves of the periphery make modifications necessary. The case should then be wrapped in a strip of cardboard, base-plate wax or sheet lead. If lead is used, it may be sealed with hot wax, and set in a mound of soft plaster, the excess of which is brought up against the sides of the lead, which makes the case more secure during the next step, which is jarring or bouncing the Spence plaster or Weinstein artificial stone into the impression. If a metal base is to be made the cast should be thick. The bouncing may be done with the hands against the bench or table, or the hub of a worn-out brush-wheel ground to about eight sides and placed upon the lathe. This eliminates bubbles and makes a smooth cast. If the vulcanite base is used the cast may be dipped into the collodion solution, or No. 4 tin foil may be burnished over the cast and soaped just before vulcanization.

Fig. 5. Casts made of Spence plaster

THE LOWER IMPRESSION

While in a general way this technique is similar to that of the upper jaw, yet there are distinctive features. The trays selected should not press into the tissues in the buccal region. Lower trays, Nos. 18 and 19, are necessary, since the compound and plaster cannot be carried below the edge of the tray. It should extend well down and back in the posterior lingual region, permitting the tongue to lie over rather than under the edge of the finished denture. There may be also a slight undercut that will aid materially in retention. Before these were available, I found it necessary to trim the outer rim of most of the lower metal trays and to add to the inner flange. The latter correction I sometimes made before placing the plaster in the compound tray by adding base plate

wax. The plaster should be mixed somewhat thicker than for the upper, as the tray has to be inverted when placed in the mouth. The tongue should be extended forward and upward. This raises the muscles of the floor of the mouth, minimizing the danger of displacing the finished denture when the tongue is raised or extended forward. It also relieves the pressure upon the fraenum linguae. Considerable difficulty may be expected in obtaining the lower impression, but the result obtained, when care is used, will be sufficient reward for perseverance.

The boxing of the lower case is similar to that of the upper, except that the plasticine should fill in the lingual portion of the boxing, as well as the peripheral border.

After at least three hours the cases may be separated and if proper care has been taken, smooth hard casts will be the result of accuracy in each step.

(*To be continued*)

RESOLUTIONS ON THE DEATH OF DOCTOR NEWELL SILL JENKINS

Whereas, The members of the National Dental Association having learned of the death of Dr. Newell Sill Jenkins; and

Whereas, The name of Doctor Jenkins having been associated with all that was highest and best in dental practice for many years; and

Whereas, His long service in Europe and his wide knowledge of men and events having given him an international reputation second to none; and

Whereas, His delightful and charming personality added to his ability as a practitioner, made him a commanding figure in the profession; therefore, be it

Resolved, That this Association places on record its high appreciation of his many sterling and lovable qualities, and its sorrow at his decease; and be it further

Resolved, That a copy of these resolutions as an evidence of our affection and as an expression of our sympathy be conveyed to the family of Doctor Jenkins and preserved in the minutes of the Association.

HOMER C. BROWN, Chairman,
TRUMAN W. BROPHY,
WALDO E. BOARDMAN,
National Dental Association Committee.

THE RECONSTRUCTION OF A MOUTH

By E. S. Ulsaver, D.D.S., New Rochelle, N. Y.

(third paper)

MAKING THE BANDS FOR THE LOWER ANTERIORS

As a first step in making the bands and caps for the lower anterior teeth, wire measurements of the roots were made after all the enamel had been removed. These measurements were made with the finest copper wire obtainable, taken from a multiple strand electric light wire. The reason for using this form of wire is that measurements made with small wire are much more accurate than measurements made with larger wire. The bands were made of Oro-Gold No. 1, 30 gauge. Each band was formed by cutting a piece of gold to the exact length of the wire

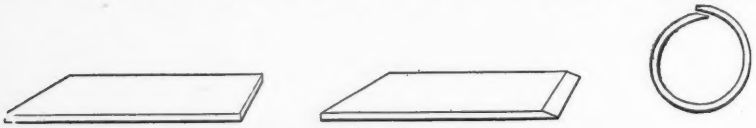


Fig. 13

measure, and slightly wider than would be required, and with a file the gold was beveled on one end to a knife edge. The gold was then turned in such way that the beveled surface was overlapped by and in contact with the unbeveled end. (Fig. 13.)

This method of beveling and lapping results in making the band somewhat shorter than the wire measure, a result which is greatly to be

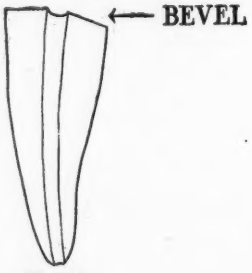


Fig. 14

desired in making bands for crowns, because the wire measure, when straightened, is always a little longer than the required band. The bands thus lapped were soldered with pure gold. The result was a band, the inner surface of which was perfectly smooth, and the joint much stronger than a "butt" joint would be.

The ends of the roots were flat and horizontal from the canals to the lingual margins, and flat and inclined from the canals to the labial margins, so that the labial margin of each root was below the level of the gum line. (Fig. 14.)

Each band was placed upon the root for which it was intended. By the use of carborundum stones, with the bands thus in place, the upper margin of the band was conformed to the shape of the end of the root.

MAKING CAPS FOR THE LOWER ANTERIORS

A cap for each band was made by bending a flat piece of Oro-Gold, 32 gauge, to an angle which the occlusal end of the band just fitted. The caps and bands were soldered together with pure gold.

A fine point in technic developed here. Several attempts were made to form the cap by laying the horizontal portion of the occlusal end of the band upon a flat piece of gold and soldering it, and then bending the flat piece of gold to follow the inclination of the anterior part of the occlusal

Fig. 15

end of the band. Every attempt to follow this method resulted in distortion of the band, and satisfactory results were obtained only when the gold for the cap was bent to the angles shown by the occlusal ends of the band, and exactly fitted before soldering, as described above. The excess of gold in each cap was then cut away.

Before a cap was placed in position, the end of the root canal was countersunk by the use of a bur of slightly larger diameter than the root canal, to a depth equal to half the diameter of the bur. This was to permit the burnishing of the gold of the cap into the countersink and offering a stronger solder attachment between the cap and the post which was to go through it. (Fig. 15.)

The caps thus completed were placed upon their respective roots, and the gold on each cap was burnished into the countersunk area at the upper end of the root canal. A small, sharp instrument was now thrust through the cap into the root canal through the centre of the depression and a post

of Oro elastic clasp wire, 17 gauge, was thrust the desired length into the root canal. The upper end of each post was allowed to project a considerable distance above the end of the cap, to facilitate soldering, as will be described. Sticky wax was now run about the top of the cap and around the post. Each cap and post was now removed and the under side of the band and all about the lower part of the post was invested in artificial stone.

The post was now to be soldered to the cap with pure gold. To effect this soldering without risk of burning the cap, the piece was heated from below to a point nearly high enough to cause the solder to flow. The pieces of pure gold were placed against the post on the occlusal end of the cap, and a soft soldering flame was directed against the portion of the post which had been allowed to project above the occlusal surface for this purpose. The post soon became intensely hot, and the pure gold melted and ran down between the post and the cap filling the depression in the cap to form a union much stronger than would have been possible if only the thin edge of the gold in the cap had remained in contact with the post. This method is taught by Mr. Weinstein. The post was then cut off flush with the occlusal surface of the cap.

(*To be continued*)

ORAL HYGIENE ASSOCIATION OF COLUMBIA UNIVERSITY

The Oral Hygiene Association of Columbia University, organized in October, 1917, by the graduates of the first class in Oral Hygiene at Columbia University, held its first meeting of the season on October 7, 1919, in Havemeyer Hall. The new officers elected at the annual meeting in May were in charge, and interesting plans for the winter were announced.

On November 12th, the regular meeting was held in Students' Hall, Barnard College. Dr. Margaret Donohoe of New York City lectured. On Tuesday evening, December 9th, Doctor Leuman Waugh gave an illustrated lecture on "A Study of the Gingival Border and the Cemento-Enamel Junction."

The meetings, which are held regularly on the first Tuesday of the month, unless postponed for important reasons, are increasingly well attended. The society is anxious to enroll as associate members, dentists and licensed dental hygienists who are graduates of other schools than Columbia. Application blanks may be procured from Miss Maud Wilson, 576 Fifth Ave., New York City.

MILDRED FARMER STAHL, President.
RAE MELNICOFF, Chairman Press Committee.

ORTHODONTIA VS. EXODONTIA

By Percy Norman Williams, D.D.S., New York, N. Y.

This is a reply to an article published in the October number of the Digest called "Regulating *vs.* Discriminate Extracting," by Dr. Mary E. Blake.

In the first part of her article, Doctor Blake has given unstinted praise to the work of the skilful orthodontist, but when we examine her article further and analyze the questions which she asks, it makes her article appear rather inconsistent, and the force of her words in praising the specialist loses much of its weight.

Referring to Question I: "Are all teeth worth regulating?" I dislike to say that I hardly believe that Doctor Blake intended it to be worded as she has worded it. It is hard to believe that a person who has been practising dentistry could question the need for orthodontic treatment, when the function of occlusion has been interfered with, by asking if the teeth are worth it. I cannot see how the quality of the teeth should have anything to do with orthodontia treatment. If the work is undertaken at a favorable time in the child's life, we have only perfect, erupted teeth to deal with. If Doctor Blake is interested in orthodontia, as her article seems to indicate, of course she realizes that there is a favorable age at which orthodontic treatment can be begun, and at this age the permanent teeth are erupting and in the most excellent condition for movement. She asks further in Question I: "Once brought into fair alignment, how long will they last?" Teeth will relapse in most every instance where they are brought into only *fair* alignment. There is only one condition where the function of mastication is restored and that is normal occlusion. If the teeth are treated in a scientific manner by a skilled orthodontist at a favorable age, that is, during the period of eruption of the permanent teeth, and they are brought into normal occlusion, they do not relapse.

I wish that Doctor Blake might tell us what she means by "poor vitality and material." I was not aware that there are various degrees of vitality in newly erupted teeth. If the cases which have come under Doctor Blake's observation show denuded enamel, due to bands, those of course show faulty execution and have no bearing on the question.

Referring to Question II: I can readily see the reason for this question, as Doctor Blake has had the unpleasant experience, which most of us have had of seeing arches mutilated by working from false principles. There are, of course, some cases which are in the minority, that show disharmony in shape and size of the teeth with the face. The Digest

has published photographs of persons whose teeth were out of harmony with the shape and size and form of the face, but these cases are rare, and I assume that Doctor Blake does not refer to this type. Unfortunately, it is a fact that patients have undergone orthodontic treatment, and the arrangement of the teeth has been such as to deform the arch and make the teeth appear much more conspicuous than they were when in their irregular state. This is so because no effort had been made to carefully reproduce the correct form and follow out Nature's methods of arch construction.

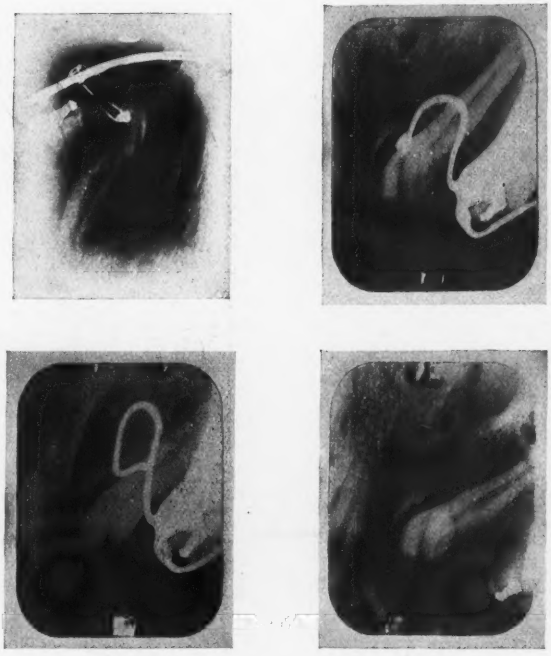
If teeth are badly overlapping and crowded in front, and all expansion is confined to the front of the mouth, we have a deformed arch with all the anterior teeth abnormally forward. This gives a most unpleasant appearance and makes the teeth appear abnormally large. This, again, should not be laid to the science of orthodontia, when it is the fault of an ignorant operator. I have yet to see a case where I do not find it easier to make room for a tooth which has been crowded outside by contracted arch than to extract. Extraction is one of the most uncertain things in orthodontia, because we never know what the arch is going to do when the tooth has been extracted. I have numbers of cases coming to me where the arches had been mutilated by extraction, and the teeth which were expected to move had remained stationary, while other teeth had moved and complicated the cases and made a much greater deformity than before the teeth were extracted.

Doctor Blake asks if we cannot extract some worthless teeth. Just what she means by "worthless teeth" is a matter of doubt to me, unless she refers to teeth which are badly decayed. It seems to me that every tooth in the mouth of a child is of the greatest value and should be looked upon as such. I have seen jaws most horribly mutilated by the extraction of some teeth which were crowded outside and the wounded area remade by bridgework. In the end this is a most expensive procedure, and prevents really scientific work being done at a later time, after the failure has become manifest.

With the normal number of teeth present, Nature never constructs too many for the size of the mouth and the other bones of the head. All that Nature asks to produce artistic effect is normal arrangement of these teeth. The operator that resorts to extracting confesses that he knows no other way to arrange the teeth and secure artistic results; in other words, he has a certain number of teeth, with one left over to get rid of, and the easiest thing is to extract it.

In those cases where there is disharmony in size of teeth when compared with the rest of the bones of the head, extraction of all the first four bicuspids might be advisable, but these cases are extremely rare.

Doctor Blake mentions an X-Ray showing an impacted cuspid. It might interest readers of the DIGEST to know that the presence of an impacted cuspid is a source of irritation which in time may become dangerous to the welfare of the patient. Doctor Ryan of Fifth Avenue, N. Y. City, reports a case in which an impacted cuspid was the cause of the development of an osteoma which nearly cost the patient his life. Fortunately, an X-Ray examination revealed the presence of the cuspid, with several supernumerary teeth clustered about it with connecting tissue. It was the opinion of the oral surgeon that the impacted eye-tooth was the cause of the irritation. At the present time I am bringing five or six impacted cuspids into position by cutting away the overlying tissues and drilling in to the palatal side of the tooth, and setting a pin



in and bringing the tooth into place. If the tooth is not brought down into place by orthodontic treatment, it certainly should be extracted.

In conclusion, I wish to state that where scientific methods are employed in correcting irregularities of the teeth, and a predetermined form of the arch has been laid out, there is no technique at the present time which would seem to indicate that there is an easier or a better thing to do than to place every tooth in its correct and normal position.


Sincerely yours
W. W. Belcher

WILLIAM W. BELCHER, D. D. S.

On December 4th there died at Rochester, N. Y., a dentist who has served his profession long, actively and unselfishly. Such words are frequently written after the demise of a man who has served himself by means of his profession, but in this case they have no such meaning. Doctor Belcher served himself only incidentally. He thought quite as much of the other fellow as of himself, and he not only thought of him but he worked for him and labored diligently to get others to work for him.

He was born in Pennsylvania in 1866, and was graduated from the Philadelphia Dental College and Garretson Hospital of Oral Surgery in 1889. Immediately following graduation, he entered practice in Rochester, N. Y., and it was in this city that his lifework was mostly done.

Doctor Belcher had a big heart. It reached out to all, but especially to the children. And because of his devotion to his profession, he saw the urgent need of dental education of parents and children and the equal need of actual service. With no thought of sparing himself in person or purse, he labored in season and out with brother practitioners, interesting the public spirited citizens of Rochester and later the municipality in free dental clinics. It was the success of this movement and the interest it aroused that led to the great institution founded by Mr. Eastman.

From 1910 to 1913, inclusive, Doctor Belcher edited the Rochester *Dental Dispensary Record*. Five years ago he became editor of *Oral Hygiene*. This gave him a broader field, in which he worked with equal diligence until shortly before his death.

A great worker is gone but his work lives. Because of what Doctor Belcher did, thousands of dentists not only have broader views of professional opportunities and service, but are doing more to live up to those views. And thousands of children who never heard his name, but whose mouths are cared for by public and private clinics and whose bodily health and development are insured will be living incarnations of the spirit of service which he lived and preached.

PROPHYLAXIS AS AN ASSET IN GENERAL PRACTICE AND IN THE PUBLIC SCHOOLS*

By Justine G. Schlosser, Dental Hygienist

To make prophylaxis an asset in general practice there are two things very necessary. First, a Dental Hygienist well trained in her profession, and a Dentist who is willing to give his patients the best there is in dental service. Your Dental Hygienist should have a general knowledge of the anatomy and physiology of the human body; know the simple rules for the general care of the body; thoroughly understand sterilization; be skilled in the handling of her instruments so that she will not injure the mouth more than improve it. The Dental Hygienist must know the importance of the peridental membrane, and that the chief reason for removing all serumal and calcareous deposits and stains from the necks and crowns of teeth and giving said teeth a high polish, is to keep the peridental membrane and surrounding tissues in a better state of health and to help put the teeth in the best state of usefulness for their owner.

To do this she must thoroughly understand the scientific scaling and polishing of the teeth, be able to instruct the patient in the home care of the mouth, and impress upon the patient the importance of this end of the work. In fact, upon your Dental Hygienist falls the heavier end of the educational work, telling the patients the big part a clean mouth plays in the preservation of the general health of the body, bringing to the notice of parents the necessity of taking care of deciduous teeth of their children, that the permanent teeth may come in clean, straight and strong as they should. And last, but not least, put all your patients on a call list to be notified at regular intervals for their prophylaxis treatment.

This can best be done by your Dental Hygienist. By having your patients come regularly, you can take better care of their teeth; if cavities are found, they will be small and easily filled, with very little pain, if any, to the patient, much to the joy of said patient, and you will have the satisfaction of working some of the time in mouths that are well kept. And right here I want to say this: don't be afraid of working yourself out of a job by working this way, or think that the Dental Hygienist will be doing more work than you will and after a while you'll have to step out and let her have the office, for there will be plenty to do for both of you, and your patients will appreciate being taken care of in this way.

There are thousands of people walking around with teeth that need attention, and sooner or later some of them will be coming to you to have those teeth put in a state of usefulness, providing you have been

*Read before the King County Dental Society, Seattle, Washington, November 4, 1919.

doing the right kind of educational work. It is up to every man with the right to the title "Dentist" to do his share of prophylaxis by making proper contact points in approximal spaces to protect interdental spaces; smooth, polished fillings with no overlapping edges to hold food débris; crown and bridge abutments with flush joints and no shoulders along the gingivæ; correction in childhood of malocclusion; the painstaking work of proper root fillings and careful X-Ray examination of all such work. Also the X-Ray examination of all devitalized teeth, or better still, all the mouth; the removal of all questionable teeth and the careful making and fitting of partial or full dentures. It also means the careful and thorough treatment of pyorrhea. It is all prophylaxis, for prophylaxis is that scientific and surgical effort to prevent disease and help keep the patient in a state of health.

You will find in taking care of your patients in this way the satisfaction of having given them the best there is in your line of work, and your contented patients will be your best reward. Your business will grow every month and grow in the right way, and your financial returns will be good. There is one thing to remember: when a case comes to you which you do not understand, be frank and say so; send it to a man you know will understand it, for your first duty to yourself is to give your patient the best possible service, and to try to do anything which you do not thoroughly understand is not fair to yourself nor to your patient. Another thing to remember is never to employ any one in a dental office who is not cheerful. People are generally more or less nervous coming to a dental office and surely do not care to see grouchy faces. Cheerfulness is nice to meet at any time, and is very much appreciated in a dental office. So much for prophylaxis in general practice and for the 15 per cent. of the people who go regularly to a dentist.

What are we, as a profession, going to do for the 85 per cent. of people wno never go near a dentist unless driven there by pain? In particular, what are we going to do for the children who are growing up with decayed teeth, and why are we going to do it? Wherever the mouths of school children have been examined it has been found that 90 per cent. of them have decayed teeth, and in most cases decayed teeth mean aching teeth. A child with an aching tooth does not want to study, does not care to eat, and cannot sleep, and so the proper growth and development of that child is seriously hindered. Instead of being a happy, carefree individual, it is a suffering bit of humanity just because proper preventive measures have not been taken. It is safe to say that most every child that is not promoted will be found to have decayed teeth, and it is a proven fact that backward children whose teeth were taken care of improved greatly in bodily health and mental efficiency.

It is our duty not only as members of the dental profession, but as the right kind of citizens and live members of a community to do what we can for that community. Taking care of our patients in our offices in the best possible manner is a fine thing, but not enough. It is our duty to educate the children and their parents in the right way of taking care of their mouths, and telling them why it is necessary to have a clean mouth. The war brought home to us the great truth that sound teeth are essential to good health, and more men were rejected because of decayed teeth than for any other one thing. If we want the children of this country to grow to be strong, healthy citizens, we must give them all the help we can. We do not claim that a clean mouth is all that is necessary to keep a child in good health, but it is a big step toward it. It will be nice when the time comes when mothers will know how to take care of a child's mouth and teeth so that there will be no malformation as a result of thumbsucking or chewing on rubber "pacifiers"; when the jaws will be properly developed because the child has been given plenty of hard food to eat; when, if any, cavities are found in the deciduous teeth, they will be taken care of, the mothers and fathers realizing that it is a serious thing to have lodging places for decayed food in a child's mouth.

It will also be a big day for humanity when six year molars come in clean and strong, ready to do the work intended for them to do. Out of 1,641 permanent teeth extracted during the 56 months which the dental clinic has been in operation for the school children of this city, approximately 1,500 of these teeth were six year molars. A tragedy of vast magnitude. Most of these children were members of large families with the father the only one earning money, excluding all possible chance of having anything put in the mouths where these molars had to be removed. Remember, there was not a tooth removed that could in any way be saved. Now you all know it means spoiling the chewing surfaces of five teeth when one permanent tooth is removed and nothing put in its place; but when a six year molar is removed it means more, for it takes away the mainstay of the dental arch, disfiguring the face, as well as hindering the development of the brain because the child has not used the muscles of that side of the face on which the aching tooth has been.

So here you have children handicapped in many ways chiefly because of ignorance in the care of the teeth. And think of the suffering these children undergo before these teeth become so badly decayed that they must be removed. To-day our great watchword is health, and to further the health of our school children we have clean schools, we insist on clean air, we tell the children they must have clean hands, clean clothes and a clean face when they come to school, and we let many of them go to school every day with a dirty mouth, meaning not only a mouth in which the

teeth have not been brushed, but a mouth with decayed teeth and the cavities in those teeth filled with decayed food. Surely there is nothing much dirtier than decayed food and no one would willingly give it to a child.

The mouth is the entrance to our body and should be kept as clean as possible. To try to fill the teeth of the children in our public schools is a noble charity but an endless chain. Like an immense flood, decayed teeth have spread over the civilized world to such an extent that hardly one-tenth of the population of a country such as ours could find a sufficient number of dentists to fill their teeth. It has been found a conservative estimate that the children in the first five grades of our public schools average six good-sized cavities in their teeth. Now you can figure out what a task it would be to fill all these teeth. We must do something to prevent so much decay. This can best be done by a thorough polishing of these teeth and teaching the child the proper use of the toothbrush and keeping watch on that child to see that it keeps the mouth clean.

We should begin with the children as they first come into school, making it part of the school curriculum. As Doctor Fones says: "There is much in life worth while besides teeth, but I know of no one factor more conducive to health than sound teeth and a clean mouth, and what we are striving for is a healthy child." Now here in Seattle there has been a dental clinic in operation since January, 1915. Thirty-two months of that time one man worked full time, and twenty-four months of that time two men worked full time trying to give relief in the most urgent cases. During that time 9,996 alloy fillings, 1,672 synthetic fillings, 1,843 cement fillings and 783 root fillings were put in, 14,294 fillings in all; 1,641 permanent teeth and 9,534 temporary teeth were extracted, 935 sets of teeth cleaned. A fine piece of work, but so little, where there is so much to be done.

There are still people even to-day who object to dental clinics in the public schools, who do not like to see public funds used in that way. To these I want to say that public money could not be used to better advantage, and wherever dental clinics have been installed in the public schools it has been found a good financial investment. According to the latest figures available it costs $60.00 per child per year to take a child through the grade schools of Seattle. There are a large number of these children who are not promoted each year. In Bridgeport, Conn., after five years of dental clinics in the public schools the figures for re-education read like this: In September, 1912, cost for re-education 42 per cent. of entire budget; in November, 1918, 17 per cent. of entire budget. Also the death rate among children from the following diseases common to children were reduced in this way:

	1914	1918
Diphtheria	36 %	18 %
Measles	20 %	4.1 %
Scarlet Fever	14.1 %	0.1 %

which shows that clean mouths are a big step toward good health. Bridgeport was one of the most difficult cities in which to carry on educational work, having many parents among its population who could not speak English. Being a munition centre during the war period the population increased many thousands, overcrowding the city and schools.

During the Influenza epidemic Bridgeport showed the lowest death rate of any city approaching its size, being 5.2 per cent. per thousand population. All children in the first five grades of all the schools of Bridgeport, including parochial schools, have their teeth cleaned at regular intervals and the small cavities filled in the six year molars while in school, this being recognized as preventive work. I am looking forward to the time when every city will have such a clinic and we as a profession must help to bring it about. Remember, we belong to one of the greatest and best professions in the world. To belong to it is something of which we may be happy and proud. Show your appreciation by living up to its highest ideals, doing the best for yourself by doing the best you know how for your fellowmen.

SEATTLE, WASHINGTON.

HOW BAD TEETH CRIPPLED A GOOD PITCHER

George Tyler, one of the famous pitchers of the Chicago Cubs, was in the hands of a dentist recently, and at the end of his visit was found to have only two teeth left in his mouth.

The pitcher, who did little work for his team last season because of pains in his arm, spent several days in a hospital at Rochester, Minn., where practically every expert at the institution examined him. All except one pronounced his condition "almost perfect." The expert who made the unfavorable report examined Tyler's teeth and declared that the lameness in his arm came from "pus sacks" which had formed on his gums.

After removal of his teeth the expert declared that Tyler would be in better condition than he ever was.

NEW YORK DENTISTS TO PAY STATE INCOME TAX PROMPTLY

By Eugene M. Travis, State Comptroller, Albany, N. Y.

New York dentists are to coöperate for the State. This will be true when the New York State dentists pay their income tax on or before March 15th next. The tax is imposed on entire net income of residents of the state. Those who reside elsewhere, but carry on business in this state, are taxed on what they earn within the state, and on income from property located in the state.

Dentists who have made federal income returns will experience no difficulty with the state law. The two statutes are in most respects similar. This similarity is varied in several cases. For instance, the New York Law does not tax income of corporations. Its sphere is limited to persons (as individuals or members of a partnership), estates and trusts.

Again, New York's rates are lower than those of the Federal government. New York will take one per cent. on the first $10,000 of taxable income, two per cent. on the next $40,000, and three per cent. on amounts over $50,000.

The tax may be paid to any one of the district offices of the State Income Tax Bureau at Albany, New York, Brooklyn, Bronx, Jamaica, White Plains, Buffalo, Rochester, Syracuse, Utica, Elmira, Binghamton or Kingston. It may also be sent direct to the State Comptroller at Albany. Copies of the law and proper blanks for filing returns may be obtained upon application.

HOW TO DETERMINE THE AMOUNT TO BE PAID

In arriving at the amount of tax to be paid, the taxpayer first determines his gross income. From gross income the law excludes amounts paid by insurance companies at death to beneficiaries, or by return of premium in endowment policies, gifts and inheritances, interest on United States bonds and bonds of New York State and its cities, towns, and villages, and federal salaries.

It will thus be seen that a dentist who served his country during the war is not taxed by New York State on the amount which he received from Uncle Sam.

After finding gross income, the taxpayer arrives at his net income by subtracting expenses of his business, losses sustained, worthless debts charged off, taxes paid during the year (except income taxes and those

assessed for local improvements) and other items shown in the law. Such deductions may be made by non-residents only in connection with income arising from sources in New York State.

BUSINESS EXPENSES WHICH MAY BE DEDUCTED

There are many troublesome questions which arise as to what may be included within the term, "expenses of a business."

This office has ruled that a dentist may claim as deductions the cost of supplies used by him in the practise of his profession, dues to professional societies and subscriptions to professional journals.

A dentist is also permitted to deduct his office rent, amounts expended for fuel, light, water, telephone, etc., and the hire of office assistants.

Books, furniture and professional instruments and equipment of a permanent character are considered investments of capital and are not deductible. The law provides, however, for a reasonable amount to be written off for their depreciation.

So also, a dentist renting a house and using a portion of it for professional purposes is permitted to deduct a proportion of the rent paid, which is properly chargeable to the number of rooms used for professional purposes.

In like manner a proportionate amount expended for light, fuel, telephone, etc., may be viewed as a business expense.

EXEMPTIONS

When the taxpayer has thus made all permissible deductions, he has reached his net income. But the tax is not paid on net income. It is further lowered by what are called personal exemptions granted only to residents. Single persons may deduct $1,000; persons married and living with husband or wife or a head of a family, $2,000, with $200 additional for each dependent under 18 years of age, or who is incapable of self-support because of physical or mental defects.

DEDUCTING AND WITHHOLDING

Employers or persons who pay to non-residents a fixed sum of $1,000 or more during the year for personal services, must deduct and withhold a tax on the amount so paid.

Employers or others are obliged to report to the State Comptroller the names and addresses of all persons to whom they have paid $1,000 or more during the taxable year from whom the tax has not been deducted

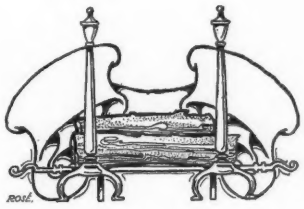
and withheld. This permits a check on the tax returns of such individuals. The withholding of the tax on amounts paid to non-residents is for the purpose of facilitating the collection of the tax.

PARTNERSHIPS AND ESTATES AND TRUSTS

Partnerships are not taxed as such, but the individual partners are. Partnerships are also required to make annual returns which must also contain the names and addresses of the partners.

The income of estates and trusts is taxable, and who pays the tax and renders the return is determined by the fact whether the executor receives the income from the estate or whether it is distributed to beneficiaries.

It is estimated that about one-tenth of the entire population of the state will come within the provisions of the new law.



PUBLIC DENTISTRY

By Hal Cowles, D.D.S. (Formerly 1st Lieut., D.C., U.S.A.) Newport, Arkansas

The conditions presented to the Dental Surgeon in the service of the United States during the recent war have been a revelation with regard to the necessity for more progressive avenues in Oral Hygiene, preventive dentistry, and public health measures. The public mind has had very little education along these lines (except what misguided knowledge could be gleaned from the advertiser), due to the technicalities and ethics of the profession. After seeing so many diseased mouths, irregularities of the teeth, pyorrhetic conditions, abscesses of a chronic nature, impactions, and accumulations of salivary deposits, and each of these conditions regarded with such trifling personal concern, the question has arisen, Why? resulting in the following conclusions:

(1) Ignorance in the early training of the child and the acquired mouth habits of childhood.

(2) Poverty, thus preventing proper care.

(3) Fear, thus avoiding such care.

(4) Disease (inherited conditions). Early childhood sickness and fevers which might possibly have been avoided or virulence lessened through oral hygiene.

(5) Neglect (wilful or unconscious).

(6) Careless, heartless dentistry, found generally in an advertising office, which is most often patronized by an ignorant, poor, penurious class of patients, where time is sold instead of service.

(7) Modes of living, class and nature of foods.

This should prove that all propaganda can only be subservient to the vital necessity of constant teaching, attention, and inspection of children's mouths regarding the fundamentals of oral cleanliness and care. It further necessitates the service of those specially trained and adapted to such vocation, sufficiently liberal and broad to take up this work from the professional, rather than the mercenary attitude, although the salary should be commensurate with the position and sufficient to insure service without reserve.

The increase in living expenses has lessened the opportunity for parents to pay for the dental services incident for the welfare of the oral health of the child. Many parents are already too poor. Because a few children in a school have had the proper attention is no reason why those who haven't are immunized to disease; neither is there any reason for subjecting others to foul bacteria-laden air, which must be expelled from

mouths with decaying teeth and fermenting food particles. Better citizenship can be stimulated through the observance of others' rights.

Several of the more progressive states have taken steps in this direction. Special courses are extended to young ladies in Oral Hygiene. Many of the better cities have dental inspection and free clinics in their schools. This is the crucial time for publicity, since so much educational work was done in the Army. Since the dental profession has won for itself a just recognition the present moment is the one to avoid laying this vital question aside for a misinformed future generation to regret.

Take this matter into the public schools and state institutions. Not alone would an increased health efficiency be recorded but a hundred per cent. mental efficiency, better discipline, better attention, alert minds due to balance of perfect health. The economic gain of the commonwealth due to increased producing power (comparing the well hours with the sick hours) is of inestimable value.

By selecting a county dental officer for the rural schools, as well as city dental officers for the municipalities; construct a graded routine programme, followed by practical demonstration, motion pictures, and operatory procedures, then the taking of an oral history of each child and grading the individual care of the mouth determined by each inspection, the work could be conducted on the same basis as physical training or any of the allied vital subjects which have only enhanced the value of simple theoretical training. The choosing of those who are to administer this training should have the most careful thought, besides the attributes of gentleness, love and human sympathy. There should be a knowledge of child psychology and the power of presenting the subject as a teacher.

FOR CHILDREN'S TEETH AND SOME TEMPORARY FILLINGS

When using oil of cloves and zinc oxide in children's teeth, it is sometimes desirable to have the filling retained for several weeks. By incorporating a few strands of cotton in the mixture of oil of cloves and zinc oxide, the resulting filling will give much longer service than when the mixture is used in the usual way.

NAME WANTED

Will the gentleman signing the letters "R. D. M." to a communication in the July DENTAL DIGEST kindly send his name and address to Editor of this magazine. A letter is held here to be forwarded.

DENTAL LAWS

DENTAL HYGIENISTS' ACTS IN THE UNITED STATES OF AMERICA

CODIFICATION

By Alphonso Irwin, D.D.S., Camden, N. J.

COLORADO DENTAL HYGIENIST ACT, 1919

Any person twenty years of age or over, who submits to said board satisfactory evidence of having received the course of training for dental hygienists recognized by it as standard may, upon payment of ten dollars ($10) which shall not be returned, be examined by said board at such times and under such rules as the board may prescribe, in the subjects considered by said board as essential for a dental hygienist, and all who are found qualified, if of good morals and character, shall receive from said board a license to remove deposits, tartar, accretions and stains from the exposed surfaces of the human teeth, in public schools and other public institutions and in charitable institutions and in the offices of licensed dentists, but only under the supervision of a duly licensed dentist; and it shall be unlawful to employ any person to do anything other or different or further in dentistry than his license permits, or to allow the same; and each licensed dentist and dental hygienist shall keep said board informed as to the town, county, street and number, or building and number, of his place of practice or places of practice, if more than one, and if employed upon a salary and not practising for himself by whom employed, and if employing one or more licensed dentists or dental hygienists or both, the name and address of each.

Provided, that where charges in writing, duly verified shall have been or shall be preferred by any person or persons against any dentist or dental surgeon licensed or hereafter to be licensed in this state, the board after first forwarding due notice, in writing, accompanied by a copy of said charges to such dentist or dental surgeon at his last known address, shall have the power upon a hearing at the time and place fixed in said notice, such time to be at least twenty days subsequent to the mailing of such notice, to revoke and annul any license of any dentist or dental surgeon or dental hygienist, procured through fraud, deceit or misrepresentation, or for gross violation of professional duties, or for incompe-

tency, immorality or being under the influence of liquor, in or about professional duties, or for the habitual use of drugs, or for the conviction of a felony, or for permitting anyone unless duly licensed to practise dentistry or dental hygiene under him or with him or in his employment. No person whose license has been revoked or annuled shall be relicensed within one year thereafter and then only upon sufficient assurance to said board of correct practice in the future, and a second revocation or annulment of any license shall be perpetual. Upon the hearing on a revocation or annulment, said board and the members thereof shall have the power to administer oaths and hear testimony.

Also to subpoena witnesses and to have all proceedings upon such hearings, including the testimony, made a matter of record, and all of such proceedings shall be made a matter of record, and upon such hearings, the party being heard may appear in person and by counsel and present in his behalf such evidence, argument and authority as he may desire. The action upon such hearings by the State Board of Dental Examiners may be reviewed by the District Court of the state of Colorado, in the proper district, by writ of certiorari under the code of civil procedure.

(Section 2, Act of 1919).

CONNECTICUT DENTAL COMMISSION
DENTAL (HYGIENIST) ACT

In Effect July, 1917

Section 12. Any registered or licensed dentist may employ women assistants, who shall be known as dental hygienists. Such dental hygienists may remove calcareous deposits, accretions, and stains from the exposed surfaces of the teeth and directly beneath the free margins of the gums, but shall not perform any other operation on the teeth or mouth, or on any diseased tissues of the mouth. They may operate in the office of any registered or licensed dentist, or in any public or private institution under the general supervision of a registered or licensed dentist. The dental commission may revoke the license of any registered or licensed dentist who shall permit any dental hygienist operating under his supervision to perform any operation other than that permitted under the provisions of this section. On or after July 1, 1917, no dental hygienist shall be permitted to practise who has not registered with the recorder of the dental commission, unless such person shall pass an examination prescribed by the dental commission. The fee for such examination shall be ten dollars. Any applicant failing to pass such examination shall be en-

titled to a re-examination at the next meeting of the commissioners, without additional cost, and for any other additional examination a fee of five dollars shall be paid. The dental commission shall make such rules and regulations as may be necessary for the examination of dental hygienists. Said commission may issue its certificate to any applicant therefor who shall furnish proof satisfactory to said commission that she has been duly licensed to practise as a dental hygienist in another state after full compliance with the requirements of its dental laws, provided her professional education shall not be less than that required in this state. The dental commission may revoke the registration and license of any dental hygienist violating any provision of this act.

RULES AND INSTRUCTIONS TO APPLICANTS FOR LICENSE TO PRACTICE DENTAL HYGIENE

Every applicant for a license must fill out an application blank which, together with her license fee, ten dollars ($10.00) must be returned to the Recorder of the Dental Commission at least one week before the day upon which the examination is to take place. Blanks can be obtained from the Recorder.

Temporary permits to practise dental hygiene pending the regular examination will not be issued.

PRACTICAL EXAMINATION

Each applicant must bring a patient upon whose teeth *tartar deposits* can be distinctly seen. The patient must have at least twenty-four (24) natural teeth present in the mouth. No attempt must be made to cleanse the mouth previous to the examination.

The examination will consist of: (a) Scaling and polishing the teeth of this patient; (b) Instructing the patient on the home care of the mouth, including instruction in the use of the tooth brush; (c) Oral quizzing by the examiners.

The applicant must come provided with suitable instruments and accessories, including two tooth brushes, to perform the above-mentioned operations.

Chairs, tables and cuspidors only will be furnished by the Commission.

THEORETICAL EXAMINATION

(1) Anatomy; (2) Physiology; (3) Dental Histology; (4) Bacteriology and Sterilization; (5) Dental Caries and Malocclusion; (6) Oral Prophylaxis.

Applicants should bring such pens as they prefer, as answers are to be written in ink.

EDWARD EBERLE, D.D.S., Recorder,
902 Main Street, Hartford, Conn.

IOWA

Dental Law Approved April 23, A. D., 1917

Dental Hygienist: Sec. 3—Women Eligible as Dental Hygienists. Any woman over eighteen years of age and of good moral character, whose preliminary education is equivalent to two years in a high school, and is a graduate of a training school for dental hygiene, requiring a suitable course of not less than one academic year of at least nine months, and approved by the State Board of Dental Examiners may, upon the payment of ten dollars ($10.00), be examined in the subjects taught in any such approved course for a license to practise as a dental hygienist, by the State Board of Dental Examiners, and if her examination is satisfactory to said board, she shall be licensed as a dental hygienist by the State Board of Dental Examiners, and given a license allowing her to remove lime deposits, accretions and stains upon the exposed surfaces of the teeth, and directly beneath the free margins of the gums, but she shall not otherwise engage in the practise of dentistry as defined in Section 2600, supplement to the code of 1913; provided, however, that all such work shall be done either in a dental office or in a public or private school, or in a public institution and under the supervision of a licensed dentist of this state. Any woman not a graduate of a training school for dental hygienists, but who has the other qualifications, and who has had, prior to January 1, 1917, at least five years' practical experience in dental hygiene work in a dental office under the direction of a dentist licensed in that state may, by complying with the statutory provisions regulating such matters, take the examination required of a dental hygienist; provided, however, that application for such examination be made within one year from the date this law becomes effective. If her examination is satisfactory to said board, she shall be licensed as a dental hygienist.

Any applicant who fails to pass the examination, shall forfeit the fee paid by her, but will be entitled to one re-examination at any future meeting of the State Board of Dental Examiners, free of charge, but for each subsequent examination she shall pay ten dollars ($10.00).

MAINE DENTAL LAW, PROVIDING FOR DENTAL HYGIENISTS

Effective after January 7, 1918

AN ACT ALLOWING DENTISTS TO EMPLOY WOMEN ASSISTANTS WHO SHALL BE KNOWN AS DENTAL HYGIENISTS

Section 1. Any registered or licensed dentist may employ women assistants who shall be known as dental hygienists. Such dental hygienists may remove lime deposits, accretions and stains from the exposed surfaces of the teeth and directly beneath the free margin of the gum, but shall not perform any other operation on the teeth or mouth or on any diseased tissues of the mouth. They may operate in the office of any registered or licensed dentist or in any public or private institution under the general supervision of a registered or licensed dentist. The State Board of Dental Examiners may revoke the license of any registered or licensed dentist who shall permit any dental hygienists operating under his supervision to perform any operation other than that permitted under the provisions of this section.

Section 2. No person shall enter practice as a dental hygienist in this state until she has passed an examination given her by the Board of Dental Examiners of this state, or a sub-committee of said board which it may appoint, under such rules and regulations as it may deem fit and proper to formulate. The fee for said examination shall be ten dollars, and any applicant failing to pass said examination shall be entitled to one additional examination without further cost. The fee for each re-examination after the first shall be five dollars. The said Board of Dental Examiners shall issue certificates of ability to practise as dental hygienists in this state to those who have passed said examination, which certificate shall be displayed in a conspicuous place in the room or rooms in which she practises; provided, however, that no person shall be entitled to such certificate unless she shall be eighteen years of age, of good moral character, and shall have had an education equivalent to that attained by one year's attendance upon the class A high schools of this state as defined by section seventy-three, of chapter sixteen, of the revised statutes, and unless she is a graduate of a reputable training school for dental hygienists or shall present a sworn statement by a dentist licensed to practise dentistry in his state that she has completed a course of at least six months' training as a dental hygienist under him. Said certificate shall be considered a license to practise as a dental hygienist in this state, except that it shall be unlawful for any person to practise as a dental hygienist in this state in any year after the year in which said

certificate is issued to her, unless she shall pay to the treasurer of the State Board of Dental Examiners on or before January 1st of said year a fee of one dollar, for which she shall receive a registration card, which card shall be placed beside or attached to the certificate above mentioned.

Section 3. The Board of Dental Examiners of this state may at its discretion without the examination as herein above provided, issue its certificate to any applicant therefor who shall furnish proof satisfactory to said board that she has been duly licensed to practise as a dental hygienist in another state after full compliance with the requirements of its dental laws; provided, however, that her professional education shall not be less than that required in this state. Every certificate so given shall state upon its face the grounds upon which it is granted, and the applicant may be required to furnish her proof upon affidavit. The fee for such certificate shall be ten dollars.

Section 4. All acts and parts of acts inconsistent herewith are hereby repealed.

Approved, April 7, 1917.

MICHIGAN: DENTAL HYGIENISTS' ACT, 1919

Dental Hygienist: House Enrolled Act No. 242, Session of 1919.

Section 11a. Any person legally licensed to practise dentistry in this state may employ one or more assistants who shall be known as dental hygienists. Any person desiring to qualify as a dental hygienist in this state under the terms of this act shall be at least twenty years of age; shall be a graduate of an accredited high school in this state, or a school of like and equal standing in some other state or foreign country, or the full equivalent of such diploma in actually earned units; shall have earned a diploma or certificate of graduation from a reputable school for dental hygienists; shall be required to successfully pass such examination at such time and place as the dental board of this state shall prescribe; the fee for such first examination shall be ten dollars. Any applicant failing to pass such examination shall be entitled to a re-examination at the next meeting of examining board without fee; provided, that for any other additional examination a fee of five dollars shall be paid. Any person licensed as a dental hygienist in this state may remove calcareous deposits, accretions and stains from the exposed surfaces of the teeth and may prescribe or apply ordinary mouth washes of soothing character, but shall not perform any other operation on the teeth or mouth or dis-

eased tissues of the oral cavity. Such hygienists may operate in the office of any legally licensed dentist in this state or in schools or in any private or public institution, provided such person shall be under direct or general supervision of a legally licensed dentist of this state. The Dental Examining Board, acting in accordance with the procedure covering revocation of licenses, cited in section four, may revoke the license of any hygienist for the violation of any provisions of this act or may revoke the license of dentists in whose offices such violation occurs, regardless of any instructions the dentist may or may not have given such hygienist, or whether said hygienist is actually in employ and pay of the dentist in whose office such person operates or not. Every dental hygienist of this state shall on or before May first of each year pay to the secretary of the Dental Examining Board a fee of fifty cents. The year for which such fee shall be due and the procedure for non-payment of same shall be the same as for regular dentists as provided by this act. The secretary of the Dental Examining Board shall keep a separate set of records of the registration of dental hygienists in this state. The Dental Examining Board shall have power to determine what shall constitute a reputable school for dental hygienists and shall have the power to examine the course of study, equipment and all the facilities to be found in any school for (dental) hygienists in this state. But no such school shall offer a course of study of less than one (school) year of nine months.

MASSACHUSETTS: DENTAL HYGIENISTS' ACT, 1917

Section 11. Any person of good moral character and twenty years of age or over, who is a graduate of a training school for dental hygienists requiring a course of not less than one academic year and approved by said board, or who is a graduate of a training school for nurses and has received three months' clinical training in dental hygiene in any such training school for dental hygienists may, upon the payment of ten dollars, which shall not be returned, be examined by said board in the subjects considered essential by it for a dental hygienist, and, if his examination is satisfactory, shall be registered as a dental hygienist and given a certificate allowing him to clean teeth under the direction of any registered dentist of this commonwealth, subject to such rules and regulations as may be adopted by said board. An applicant who fails to pass a satisfactory examination shall be entitled to one re-examination at any future meeting of the board, free of charge, but for each subsequent examination he shall pay ten dollars.

Section 13. Whoever falsely asserts that he has a certificate granted

by said board, or who, having such certificate, fails to exhibit the same as required by this act, or who falsely and with intent to deceive claims to be a graduate of any college granting degrees in dentistry, or who practises or attempts to practise dentistry or dental hygiene as defined in section eleven hereof without being registered as herein provided, or any registered dentist or any owners or managers of an incorporated dental company who shall employ an unregistered person as an operator, may be punished for each offense by a fine of not more than two hundred dollars or by imprisonment for three months, or by both such fine and imprisonment.

Rules and Regulations Governing the Practice of Dental Hygienists in the State of Massachusetts.

1. Each dental hygienist shall register with the Secretary of the Massachusetts Board of Dental Examiners when commencing practise, annually thereafter in the month of January and at such other times as he may change his place of employment or employer. Blanks for this purpose will be furnished by the secretary of the board.

2. The cleaning of teeth is limited to the removal of lime deposits, accretions, and stains from the exposed surfaces.

3. Any violation of these rules shall be amenable to provisions of Sections 11 and 13, of Chapter 301 of the Acts of 1915, as amended by Chapter 76 of the Acts of 1917, as above set forth.

MINNESOTA:

AN ACT TO PROVIDE FOR THE LICENSING OF DENTAL NURSES AND PROVIDING THE DUTIES AND RIGHTS OF DENTAL NURSES

Be it enacted by the Legislature of the State of Minnesota:

Section 1. *Who May Become Dental Nurse:* Any woman of good moral character, having a high school education and being 20 years of age or over, who is a graduate of a training school for dental nurses requiring a course of not less than two academic years, and approved by the Board of Dental Examiners, or who is a graduate of a training school for nurses and has received at least three (3) months' clinical training in dentist hygiene in any approved training school for dental nurses, may upon payment of ten dollars ($10.00) be examined by said board on the subjects considered essential by it for a dental nurse. Such examination may, in the discretion of the board, be conducted by a part of the members of the board. If the applicant in the opinion of the board successfully

passes said examination, she shall be registered and licensed as a dental nurse. Any woman of good moral character and 20 years of age or more, who before June 1, 1919, shall register her name with the State Board of Dental Examiners, may upon showing three (3) years' actual experience in the office of a licensed dentist, and upon complying with such requirements and passing such examinations as the board of dental examiners shall require, be licensed as a dental nurse.

Section 2. *Employment of and Practice by Dental Nurses:* Any licensed dentist, public institution or school authorities may employ such licensed dental nurse. Such dental nurse may remove lime deposits, accretions and stains from the exposed surfaces of the teeth, and administer gas, ether and anesthesia, as applied to dentistry, but shall not perform any other operation on the teeth or tissues of the mouth. She may operate in the office of any licensed dentist or in any public institution, or in the schools, under the general direction or supervision of a licensed dentist. The Board of Dental Examiners may suspend or revoke, with power to reinstate, the license of any licensed dentist who shall permit any dental nurse operating under his supervision, to perform any operation other than that permitted under the provisions of this section, and it may also suspend or revoke, with power of reinstatement, the license of any dental nurse violating the provisions of this act; the procedure to be followed in the case of such suspension, revocation or reinstatement shall be the same as that prescribed by law in the case of suspension, revocation or reinstatement of a licensed dentist.

Section 3. *Payments to be Made to Board of Dental Examiners:* Before the first of May in each year, every licensed dental nurse shall pay to the Board of Dental Examiners a license fee of one dollar ($1.00), and in default of such payment the board may upon hearing and upon twenty (20) days' notice revoke the license of the nurse in default; but the payment of such fee on or before the time of hearing, with such additional sum not exceeding five dollars ($5.00), as may be fixed by the board, shall excuse any default. The board may collect such fee by suit.

Section 4. *Licensing of Dental Nurses Authorized by Another State:* Any female dental nurse or dental hygienist duly licensed to practise as such in another state having and maintaining an equal standard of laws regulating the practice of dental nurses with this state, and who is of good moral character and is desirous of removing to this state, and deposits in person with the Board of Dental Examiners a certificate from the examining board of the state in which she is licensed, certifying to the fact of her being licensed and that she is of good moral character and professional attainments, may upon the payment of a fee of twenty dollars ($20.00) at the discretion of the board be granted a license to practise in

this state without further examination. As to any person so applying, and who has been licensed in a state not maintaining an equal standard of laws within this state, the board may license such person upon the payment of the fee above provided for, furnishing the same evidence as to licensing, good moral character, and professional attainments, and passing such further examination as the Board of Dental Examiners shall deem necessary.

Section 5. This act shall take effect from and after its passage.

Approved April 15, 1919.

NEW HAMPSHIRE: DENTAL HYGIENIST ACT, 1919

Any person of good moral character and twenty years of age or over, who is a graduate of a training school for dental hygienists, requiring a course of not less than one academic year and approved by the board, or who is a graduate of a training school for nurses and has received three months' clinical training in dental hygiene in any such training school for dental hygienists, may, upon the payment of ten dollars, which shall not be returned, be examined by said board in the subjects considered essential by it for a dental hygienist and if his examination is satisfactory, shall be registered as dental hygienist and given a certificate allowing him to clean teeth under the direction of a registered dentist of this state, in public or private schools or institutions approved by the local board of health. An applicant who fails to pass a satisfactory examination shall be entitled to one re-examination at any future meeting of the board, free of charge, but for each subsequent examination he shall pay ten dollars. But this act shall not apply to persons who for a period of at least one year prior to the time when this act shall take effect have been dental nurses in the office of some legal practitioner of dentistry in this state, but such persons may be examined by said dental board without being graduates of or holding a diploma from any training school for dental hygienists, provided such persons shall, within ninety days after this act shall take effect, file with the secretary-treasurer declarations under oath that they have been dental nurses serving under a legal practitioner as aforesaid and desire to take the examination.

NEW YORK: DENTAL HYGIENISTS' ACT

Effective 1916

Any dental dispensary or infirmary legally incorporated and registered by the regents, and maintaining a proper standard and equipment

may establish for women students a course of study in oral hygiene; all such students upon entrance shall present evidence of attendance of one year in the high school, and may be graduated in one year as dental hygienists, upon complying with the preliminary requirements to examination by the board, which are:

(a) A fee of five dollars; (b) Evidence that they are at least twenty years of age and of good moral character; (c) That they have complied with and fulfilled the preliminary and professional requirements and the requirements of the statute.

After having satisfactorily passed such examination they shall be registered and licensed as dental hygienists by the regent under such rules as the regents shall prescribe.

6. Any licensed dentist, public institution or school authorities may employ such licensed and registered dental hygienists. Such dental hygienists may remove lime deposits, accretions and stains from the exposed surfaces of the teeth, but shall not perform any other operation on the teeth or tissues of the mouth. They may operate in the office of any licensed dentist, or in any public institution or in the schools under the general direction or supervision of a licensed dentist, but nothing herein shall be construed as authorizing any dental hygienist performing any operation in the mouth without supervision. The regents may revoke the license of any licensed dentist who shall permit any dental hygienist operating under his supervision to perform any operation other than that permitted under the provisions of this section, and they may also revoke the license of any dental hygienist violating the provisions of this act.

OKLAHOMA: DENTAL HYGIENISTS' ACT, 1919

Section 16. Any registered or licensed dentist may employ women assistants, who shall be known as dental hygienists. Such dental hygienists may remove lime deposits, accretions and stains from exposed surface of the teeth, and directly beneath the free margin of the gum, but shall not perform any other operation on the teeth or mouth, or any diseased tissue of the mouth. They may operate only in the office of any registered or licensed dentist under the general supervision of such dentist. The State Board of Dental Examiners may revoke the license of any registered or licensed dentist who shall permit any dental hygienist operating under his supervision to perform any operation other than that permitted under the provisions of this section.

Section 17. No person shall enter practice as a dental hygienist in this state until she has passed an examination given her by the Board of Dental Examiners of this state, under such rules and regulations as it may deem fit and proper to formulate. The fee for said examination shall be ten dollars ($10.00), and any applicant failing to pass said examination shall be entitled to one additional examination for an additional fee of five dollars ($5.00). The fee for such re-examination thereafter shall be five dollars ($5.00). The said Board of Dental Examiners shall issue certificates of ability to practise as dental hygienists in this state to those who have passed said examination; provided, however, that no person shall be entitled to such certificate unless she shall be eighteen years of age, of good moral character, and must be a graduate of a reputable training school for dental hygienists.

TENNESSEE: DENTAL HYGIENISTS' ACT, 1919

Section 6. Be it further enacted that any dental dispensary, infirmary or school legally incorporated and recognized by the State Board of Dental Examiners as maintaining the proper standard and equipment may establish for female students a course of study in mouth hygiene. All such students upon entrance to such dispensary, infirmary, or school must be of good moral character and have had one year in high school, and shall present such other evidence of qualifications as may be required by said dispensary, infirmary, or school, and may be graduated in not less than one collegiate year as dental hygienist, upon complying with the preliminary and professional requirements as to examinations established by said state board; provided, that no person shall be graduated as dental hygienist who is under twenty years of age. Upon payment of a fee of twenty-five dollars, after having satisfactorily passed such examinations, they shall be licensed and registered as dental hygienists by said State Board of Dental Examiners under the rules and requirements as prescribed for the registration and licensing of dentists.

Section 7. Be it further enacted that any regularly licensed and registered dentist may employ such licensed and registered dental hygienist. Such dental hygienist may remove lime deposits, accretions, and stains from the exposed surfaces of the teeth and polish same, but shall not perform any other operation on the teeth or tissues of the mouth. They may operate only in the offices and under the general supervision of a licensed and registered dentist. Nothing herein shall be construed as

authorizing any dental hygienist to perform any operation in the mouth without such supervision.

Section 8. Be it further enacted that said state board may revoke the license of any dentist who shall permit any dental hygienist operating under his supervision to perform any operation other than that permitted under the provisions of this act, and said board may also revoke the license of any dental hygienist violating any of the provisions of this act.

Another year! And what will we do with it? What is your conception of its proper uses? Is it just another stretch of time through which we must somehow make a way, or is it rather a continuation of a journey well begun? Does it seem to offer you an opportunity for a fresh beginning, or are you satisfied with the course pursued? It will be to you what you make it. Your attitude toward the new year will do much to make it a happy one. May your heart and mind choose wisely—and happily.

PREPAREDNESS LEAGUE OF AMERICAN DENTISTS
FRENCH-BELGIAN RELIEF FUND

We are glad to report the receipt of more contributions to the League Fund for French and Belgian dentists who have suffered so severely from the war. As American dentists we should deem it a distinct privilege to give aid to our unfortunate brothers, for the benefits we enjoy are greater than those of any similar body of men in the whole world, and our income is far in excess of any previous time.

Let us not forget that to give is but to receive, and the giver is the one who becomes greatly enriched thereby. Did you ever stop to question the ownership of the worldly goods in your possession? No doubt it would require much argument to convince you that you do not *own* the property in your possession—that the money you have earned by years of unremitting toil is given you to be held in trust for others. In a few years it must pass on to another link in the endless chain signified by birth and death, and will it not give you much satisfaction and comfort to know that you have transferred a due proportion of it to the welfare of your suffering brother dentists in devastated France and Belgium? There are about five hundred dentists, a good many widows and many children to be looked after. Will you not dig deep into your pockets and bring forth all you can possibly spare for this grand cause?

We earnestly urge all members of the League to rally to the cause and contribute at least one dollar each, and thereby assist in making this object the success it merits. We have appointed a commission to represent the League—Drs. Georges Villain, Wm. Slocum Davenport, and Richard Burkhart, all of Paris. Following are letters recently received from Doctor Davenport and Doctor Burkhart.

(*Dr. Davenport's Letter*)

Paris, 6 Avenue De L'Opera,
Oct. 19, 1919.

My Dear Doctor Beach:

It gives me great pleasure to act with Doctors Villain and Burkhart on the Commission to collaborate with the Aide Confraternelle, the acceptance of which I cabled you.

It is a great personal satisfaction to know the great interest the American dental profession takes in this most excellent work.

The Aide Confraternelle is composed of men who stand high in the profession, who have labored during the war under most trying condi-

tions, and are now most grateful for your assistance. I might mention Dr. I. B. Davenport, my brother, is Vice-President of the Aide, and was one of the founders. Your Committee has had two meetings with the Aide, and will be kept in constant touch with all of its proceedings.

As I cabled you "Funds Urgent," with the present exchange 8.665 every dollar will count. A few weeks ago the exchange was 9.13, but no doubt that side of the question will be carefully watched by you in America.

The conditions in Paris have much improved in many ways. The French dental profession has made a fine showing in Army and Hospital work, and we anticipate a better recognition for them in the near future, on the line we have attained in America.

My dear President it is a privilege to be called upon to work with you in the interest of our French Confrères, who have always shown Americans every courtesy.

Ever fraternally yours,
WM. SLOCUM DAVENPORT.

(*Extract from Letter Received from Dr. Richard Burkhart of Paris*)

"As Doctor Davenport writes and cabled, they (Aide Confraternelle) do need money. They have now about seventeen children they are looking after and several widows, as well as receiving requests for help from many dentists. They are about as representative and active a group of French dentists as can be gotten together, are very fine men and deserving of a great deal of credit for the work they have done and are trying to do.

"They give money to buy equipment to any deserving dentist, or help the family of any. Sometimes they give two or three thousand francs or more but usually less. They have helped some Belgians, and as far as I can see are not at all partisan, but willing to help all.

"With the exchange as it now stands we can do a bigger thing by getting any available money as soon as possible.

"They are planning to try and make dentists of all the children they can, which surely is a good thing. They bring up each name at the meeting and investigate it, and no money is given until voted on. If you want us personally to see each applicant or go into the matter more, let me know."

Kindly send all contributions to Dr. L. M. Waugh, 576 Fifth Ave., New York, N. Y., who is Treasurer, and will acknowledge all receipts and render a strict accounting of all disbursements.

J. W. BEACH, President.

PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.

Editor of Practical Hints:

For chapped hands or dry harsh skin I know of nothing better to use than about a half teaspoonful of kerosene in the wash water. Rub in thoroughly and wipe dry. It does not leave the hands "smelly." It beats any drug store preparation I ever used. Try it once and observe results.—DR. F. L. DUNGAN.

Editor of Practical Hints:

In answer to the inquiry of Dr. C. E. Bartholf of Elroy, Wis., in October DENTAL DIGEST.

Aluminum is a strongly electro-positive metal, much more so than zinc, and when an aluminum upper denture is placed in the mouth to articulate with a number of gold crowns and two bridges the contact of the gold and aluminum will result in the formation of a miniature electric battery. If the doctor will take a small slip of aluminum and another of gold, place one above and the other below his tongue and allow the free ends to come into contact he will become conscious of the disagreeable taste complained of by his patient.

Aluminum has a very strong attraction for oxygen, and on this account it is a very difficult metal to solder. The metal is always covered by a thin coating of oxide as we see it, and this coating forms a protection against further action from the oxygen of the air so long as the metal remains dry. It is rapidly corroded, however, when wet. A sign made up of cast aluminum letters and polished will be permanent if kept dry, but if exposed to the weather it will not be long before the letters will become dull and eventually very rough. This is the reason why the life of an aluminum denture is not so great as one of vulcanite, being usually deemed to be but about five years. The affinity of aluminum for oxygen is so great that if pulverized iron oxide and aluminum powder are mixed in certain proportions, and a portion of the mixture is heated sufficiently by a fuse, the aluminum will reduce the iron oxide with the evolution of

much heat; so much that the reduced iron will be completely melted, though wrought iron cannot be melted by the heat evolved by a blacksmith's forge. It was proposed some years ago to take advantage of this reaction for repairing broken locomotive frames, ships' rudder shoes, and other like pieces of wrought iron which were difficult of removal, and which it was equally difficult to weld with the retention of their exact length and shape. The heat evolved by the reaction between the iron oxide and aluminum was sufficient to form an apparently firm union between the old and new metal, and this without applying any other heat to the broken parts. It is well known to dentists that in order to get a perfect union in soldering, the pieces to be soldered must be heated nearly to the melting point of the parts to be soldered; but in the case mentioned the surplus heat of the melted iron was expected to be sufficient to produce a perfect union of the old and new metal without any heating of the broken parts. Whether this process proved to be entirely successful the writer is unable to say.

In the matter of procuring a good joint or attachment between aluminum and vulcanite it may be said that ordinary red or black rubber when vulcanized against aluminum is easily separated, but pink rubber, subjected to the same treatment, adheres very strongly. The union is not, however, sufficient to be trusted in artificial dentures, which are always subjected to a slight springing and bending when in use in the mouth; but the writer believes that if the surface of the aluminum which is to be covered by the vulcanite is first painted over with a solution of pink rubber in chloroform or carbon disulphide, the attachment will be sufficiently strong to prevent any drawing away by reason of the shrinkage in vulcanizing. Of course, the usual mechanical attachment by staples is essential. Moisture will eventually seep into the joint, corrosion will ensue, and ordinary spurring with a graver will fail after a short time.

A number of years ago, it was proposed to use aluminum crowns as a cheap substitute for gold ones. These did poor service at best, and in some instances they developed an unpleasant peculiarity of getting uncomfortably hot in the mouth. This, I think, was more apt to occur when the tooth had been built up with amalgam before crowning it. Here, again, you have two metals in contact, one of which is excessively electropositive as compared with the other. I am speaking entirely from memory, but my belief is that when this heating occurred the life of the aluminum crown was very short indeed. I am not sure but what they became so hot that their removal was imperative.

Doctor Bartholf will do well to substitute a rubber denture for the aluminum one in this case.—GEO. B. SNOW.

Editor Practical Hints:

I have a family whose work I do, consisting of two boys and three girls, youngest being eight years, the oldest eighteen. Their teeth are very soft and mealy, and the permanent teeth are decaying almost as fast as they erupt. Fillings hard to make stay. What can I do for these children to stop this condition? Have tried milk of magnesia. Any information will be appreciated.

M. D. H.

ANSWER.—You probably can do nothing for these children's teeth, but keep them repaired as best you can, hoping that as is frequently the case they will come into a period of less susceptibility somewhere between the ages of twenty and twenty-five. I believe, however, that if you could accomplish what in all probability is impossible, i.e., regulate the family food habit, you could correct this difficulty (or at least very largely so) in a very short time. Milk of magnesia or any other lotion or medicament I believe to be worse than useless for this purpose. Teach them the tooth-brush and floss habit. "A clean tooth will never decay."

Soft, sticky, starchy and sugary foods clinging to the tooth surfaces break down rapidly with an acid fermentation resulting promptly in rapid decay for susceptible subjects. These people should eat harder, coarser foods—foods containing natural organic salts in the form to be readily assimilated, and which will increase the general health of the individual, strengthening the resistance of all the bodily tissues as well as rendering the teeth more nearly immune to decay. Practically all fresh vegetables are well supplied with these essential organic salts. Most vegetables are best boiled in just sufficient water to complete the cooking; when excess water is poured off a great proportion of the invaluable inorganic salts as well as the best flavor of the food is poured off with it. Potatoes should be baked with the skins on, and skins and all eaten. In fact, the skins of all fruits and of as many vegetables as possible should be eaten, as the inorganic salts are contained mostly within or just beneath the skin. For the same reason whole wheat bread (and other grain also) should be eaten. Baking powder is preferable to yeast (which is fermentive) as a riser. All breads should be baked to a crisp toast; very thorough cooking breaks down the capsules of the starch molecules, thus starting the process of digestion. This hard toast should be eaten dry; this insures better insalivation as well as giving the teeth and their supporting tissue the life-saving advantage of vigorous exercise, and quite a thorough mechanical cleansing by the action of the coarse dry food particles.

Raw fruits and vegetables are richer in organic salts and usually

more nourishing than when cooked. One should eat a large salad with every dinner.

Doctor Pickerell says that every meal should be started and finished with an acid fruit, as the fruit acid stimulates the free flow of normal alkaline saliva, which is correct for the digestion and assimilation of the food and inhibition of the activity of the organisms of decay. This instruction is correct, I believe, except for those individuals who should avoid the eating of starches and acids in combination.—V. C. S.

Editor Practical Hints:

I have a lady patient, age about thirty years, who has caries in both superior laterals, necessitating devitalization. Have applied S.S.W. fibre, also Arzolite fibre alternately for over two months. One pulp is now exposed, but is not dead; the other is not exposed but is still quite sensitive. Patient is quite nervous, and I do not care to use pressure or peridental anesthesia if it can be avoided. Will appreciate reply.

DR. R. B. MILLER, Woodburn, Ore.

ANSWER.—I see no valid objection to the use of either pressure or interoseous anesthesia if properly applied. You may, however, use analgesia induced either with nitrous oxide and oxygen or with chloroform. The latter is induced by letting the patient hold a small open bottle of chloroform under her own nose. In this way a very complete analgesia may be maintained without fear of going too far, for the hand will drop away the moment patient passes into anesthesia.

This, of course, is your business, and you are not asking my advice on this point, but I cannot conceive why these pulps should require devitalization. In my opinion it would have been infinitely better to have protected and conserved them with Doctor Gardinier's Pulp Preserver beneath good fillings, or (if too badly broken down) porcelain jacket crowns.

CORRESPONDENCE

THE STATE BOARD AND THE SERVICE MAN

[The following letter deserves your attention. The DENTAL DIGEST has repeatedly called attention to the inconsistencies of our State Dental Laws and the great need for a Federal Board that would make it possible for a qualified American citizen to practise anywhere in America.

When the Government needed dentists, hundreds of them dropped everything, and, as American citizens, rushed to the aid of their country—America. It wasn't a "State" affair, and these men were not Ohio dentists or North Carolina dentists or New York dentists—they were *American* dentists.

The short-sighted provincialism that insists on the "letter of the law" should give way to a broad Americanism when dealing with the noble men of our Army and Navy, who, having served us all, are now being discharged to shift for themselves. They are not asking for jobs, necessarily, but simply for the right to practise where it is most convenient.

If the old bugaboo of "States Rights" must still be deferred to, at least let these fellows practise until the next examination, and then—be reasonable.

Write the DENTAL DIGEST what you think of this note and of the letter that follows.—EDITOR.]

Editor of the DENTAL DIGEST:

I wish to discuss the situation of many dentists being discharged from the United States Army, and feeling that you are in closer touch with many of these conditions, I am asking your advice.

It appears that there is a decided lack of patriotism, a marked inappreciation for the representation, the educational part which the Dental Corps has built and maintained in the U. S. Army during this emergency. The men who received the greatest benefit, financially and otherwise, were men who remained civilian practitioners and men who decided what the future of the men leaving the service should be. Many unjust criticisms and undue remarks with little or no consideration for the individual or with regard to the conditions under which they operated have been forthcoming. Little thought is given to the fact that these men left, homes, families, practices and allied interests and accepted positions for the good of the United States and for the advancement of the dental profession regardless of their financial losses, deprivation of social and family life, and that on their return to civilian life were in greater financial embarrassments than previously, and that all equipment had advanced proportionately with the cost of living.

As was understood—due to the exigencies of the moment—the great percentage of cases being qualified for overseas was work of a temporary

nature. The great number of men demanding work and the inadequacy in number of operators necessitated that cases be hurried and much radiographic and treatment work omitted. The work was done under conditions which could not be conducive to the highest class of service, and besides a shortage of equipment existed (several dentists supplying their own instruments).

Such conditions were reversed with regard to men leaving the service. Men coming through the hospitals received the highest class of work—removable bridge work, restoration of tissue loss, permanent fillings with normal anatomical contour and carved cusps—all treatment work was carefully investigated and successfully completed.

The men of the dental corps were men of the highest ethical character, students through the entire service, hard workers, men whose aim was to educate—to teach the boys the necessity for the care of the mouth; men whose workmanship shamed many of the cases coming from civilian life, and supplanted some work which was found necessary to remove.

I have written this explanation, not to find fault, not to apologize, not to praise, but to express my own personal opinion and to give you my experience on leaving the Army. If I felt that I were alone in this I would let matters rest.

I was discharged from the Army after twenty months of service. I went to the secretary of the Board of Examiners in the state where I wished to practise. I held a license in another state, but did not, could not, return. My equipment was gone, my practice dissipated, my savings in the service not a great figure, not sufficient to establish a temporary practice in the other state.

I requested that I be allowed to take an examination, and was informed that the meeting had been held and that the next one would be in the spring, and that examinations couldn't be held for every Tom, Dick and Harry at any time. Well, it was out of the question for me to have applied any earlier than I did, because I was never certain of a leave of absence at the time for the examination. What can I do in a Professional Way?

My interests (the very few remaining) are centred here—people depending on my support are living here. I did not ask for anything free. I simply requested a chance. If I do not follow my profession I become less adept in the technique which is necessary for the better class of workmanship. My expenses have not stopped. From the standpoint of economy I am a loss to the community, for I am a non-producer along the lines of my trained qualifications. I have several thousand dollars invested—tied up—so that I cannot receive any returns on my educational investment or my experience. Will you kindly advise?

AN APPRECIATION

Editor of DENTAL DIGEST:

Because of the fact that I cannot resist expressing my approval of the articles in recent numbers of the DENTAL DIGEST on Government Dentistry, I must go on and say something about it myself.

Awake! ye dentists of the U. S. A. Get together in this great movement, "Government Dentistry." Follow the opinions of Dr. Eugene Payne of San Francisco and Dr. Joseph Herbert Kaufman of New York. Surely in union there is strength. I can hardly add anything better to what these gentlemen have expressed on the subject, but it is up to us all to say something.

Take the subject up, discuss it in your Dental Societies. Get together and push the movement—it is noble, it is just. It is one of the greatest things for the uplift of humanity and that is what you men connected with the profession should do.

Better health, better citizens, more progress, more happiness. I repeat again, take up this wonderful movement and carry it through.

(MRS.) GEO. J. BLEECHER.

PRELIMINARY EDUCATIONAL REQUIREMENTS FOR ENTRANCE TO A DENTAL COLLEGE IN NEW YORK STATE

The following letter was addressed to High School principals of New York City and environs, by Dean Alfred R. Starr of the New York College of Dentistry, and it is here published for the information of our readers who may be called upon by friends for advice regarding the preparatory steps to the study of dentistry.

The theory of high requirements is all right, but it will be interesting to learn just what influence the new law will have toward increasing the number of practising dentists. There are not enough dentists to care for the needs of the public now; will the new requirements attract an increased number of students or not? Will the increased cost of dental education have any effect on dental fees? If so, what of the much talked of "80 per cent."? The letter follows:

DEAR SIR:

Since many students are about to begin their High School work and many will wish to select at the outset such a course as will qualify them for future professional studies, I take the liberty of addressing you rela-

tive to the requirements for entering a dental school in the State of New York. The laws regulating the requirements for admission to a dental school have been changed quite often and, since you no doubt are often called upon to give information regarding such requirements, I respectfully submit the following:

The present requirements are a certificate of graduation from a registered high school or an equivalent education (72 Regents' counts) approved by the examinations division of the New York State Education Department. The High School diploma is not sufficient unless evidence be submitted showing the satisfactory completion in an approved school of a one-year course in each of the following sciences: physics, chemistry and biology; or, in lieu thereof, the passing of each of these sciences at 75 per cent. or above in Regents' examinations.

After January 1, 1921, a "Dental Student Qualifying Certificate" may only be obtained upon the presentation of satisfactory evidence of the completion of not less than one year of instruction in any approved college of liberal arts and science, after the completion of an approved four-year High School course, based upon eight years of elementary preparation. The year of college instruction must be of at least fifteen week hours, including English 3, physics 3, biology 3, chemistry 3, and 3 optional.

Respectfully yours,
ALFRED R. STARR, Dean.

WINTER

Winter! I love thee, for thou com'st to me
  Laden with joys congenial to my mind;
Books that with bards and solitude agree,
  And all those virtues which adorn mankind.
What though the meadows and the neighboring hills
  That rear their clumsy summits in the skies—
What though the woodland brooks and lowland rills
  That charmed our ears and gratified our eyes
In thy forlorn habiliments appear!
  What though the zephyrs of the summer tide
And all the softer beauties of the year
  Are fled and gone, kind heaven has not denied
Our books and studies, music, conversation,
And evening parties for our recreation!

EXTRACTIONS

Discontent is an infirmity of will.

Nothing is worse than waste except false economy.

Quotation is the highest compliment you can pay an author.

Occasionally germs get on a man's mind and worry him to death.

A mob is a monster, with heads enough, but no heart and little brains.

It is not the possession of truth but the searching after it that gives happiness to man.

A woman never pays much attention to what her husband says unless he is talking in his sleep.

Men are not bunglers because they are poor, but they are poor because they are bunglers.

(Willie)—Say, mom, if the Mississippi is the father of waters, why don't they call it Mistersippi?

Man is the only creature endowed with the power of laughter. He is also the only one that deserves to be laughed at.

The multiplicity of facts and writings is become so great that everything must soon be reduced to extracts—Voltaire.

"Take down that motto, 'There's No Place Like Home,'" stormed Mr. Growcher. "If the landlord sees it he'll think we are happy and contented and raise the rent again."

(Clara)—Jack was just miserable when he kissed me goodbye at the station.
(Dora)—Well, I don't pity him a bit. He didn't have to kiss you, did he?

We are told that the Lord made the world in six days. Maybe He did, but He had no Senate on His hands to delay the work with reservations and amendments, so the job was put over on schedule time.

Man's hair turns gray before woman's,
  That's known in every clime;
The explanation's easy for
  He wears his all the time.

Daughter—A certain young man sent me these flowers this morning.
Mother—Don't say "a certain young man," my dear. There is none of 'em certain till you've got 'em.

Miss Mugg (in studio)—I would like to have you paint my portrait, Mr. Smiers, but $1,000 is too much.
Artist—Well, I'll do it for $750—but I'll tell you in advance it will be an awfully accurate likeness.

(Judge)—Where did the automobile hit you, Rastus?
(Rastus)—Well, Jedge, if I'd been carryin' a license number it would hab busted in a thousand pieces.

The weaker sex is that portion of the human race that goes down town in zero weather in a half-masted lace waist and pumps to buy a muffler and woolen socks for her husband so he can go to work without freezing to death.

A tourist while traveling in the north of Scotland far away from anywhere, exclaimed to one of the natives, "Why, what do you do when any of you are ill? You can never get a doctor."
"Nae, sir," replied Sandy. "We hae to dee a naitural death."

A Sunday-school teacher was talking about Solomon and his wisdom. "When the Queen of Sheba came and laid jewels and fine raiment before Solomon, what did he say?
One little girl answered: "'Ow much d'yer want fer the lot?"

(Editor)—We are sorry to lose your subscription, Mr. Jackson. What's the matter? Don't you like our politics?
(Mistah Jackson)—'Taint dat, sah; 'taint 'dat. Mah wife has been and landed a job o' work for me by advertisin' in youh darn ole papah.

DENTAL ECONOMICS

SPEED UP PRODUCTION!

By Harry J. Bosworth. Chicago, Ill.

This is the day of "speed." The old-fashioned coach-and-four wouldn't stand much chance against a "Twin-Six."

And so it is with dentistry. The need is far greater than the supply. The extra course, the time spent in study, the investment of several thousand dollars to engage in practice—all these are factors which serve to head a young man away from the dental practice and into a business career, especially when he sees the income of the average dentist—he who sits and waits for success instead of going right out and getting it.

Looking at it from the boy's point of view, you can't blame him. Yet if I had a boy to start out into life to-day, I know of nothing I would rather have him take up than dentistry. But I would see that he learned to look out for the income side of his business; all knowledge does not come from text-books.

To any dentist, new-comer or old-timer, I would say that if he surrounds himself with the proper help so that he can get in six producing hours a day and then only takes on such work as promises satisfactory results that will show profit, he will make a success of his job and feel the keenest enthusiasm for his profession. Remember, "Many times the forcep is better for both patient and dentist."

One or two trained dental assistants can do everything for a dentist except actual work in the mouth. Put your office on an efficiency basis, analyze each case, judging from the class of patient and service rendered, and set up each charge at a fee that gives you a profit no matter what work is done or what material is used.

The Great American Public is suffering for need of dental service. They take what you have to give and place you at your own valuation, provided you have the goods to back yourself up in your statements. Therefore, why not spend your time on work worth while? You will be happier; so will the patients, if you specialize only in those things which

cannot be done by your assistant. The patient will feel more respect for you if you don't waste your time on trivialities.

It is best to keep a daily efficiency sheet based on actual time spent, kept by a time stamp and not by guess work. It will take only ten minutes each day. And relegate everything except actual work in the mouth to an assistant.

Quit puttering.

PRODUCE!

IF YOUR EMPLOYEE HAS SIGNED A CONTRACT OF EMPLOYMENT WITH YOU, WHAT GOOD IS IT?

By Elton J. Buckley, Philadelphia, Pa.

[Readers of The Dental Digest are invited to submit questions of a legal nature to Elton J. Buckley care of The Dental Digest. This service is free.—Editor.]

I want to ask your opinion on a problem which is about to arise in our business. Have no objection to treating the matter in public, but if so omit names. We have three employees in our office and five in our store that we expect will stop work shortly, in fact, go on strike unless we advance their wages to an impossible point. The question is, can they stop work in view of contracts existing? Our custom is to hire an employee without any contract and keep him or her until tried out, and then if worthy to ask them to sign a contract for one year. Sample of contract inclosed herewith. All of the eight employees referred to signed this contract and none of same has expired. If they do strike can we obtain an injunction against them? If we cannot, of what use is the contract as we were advised it would give us the right of injunction?

E. O. S. & Co.

You have gone further in your relation with your employees than most employers, who don't even get a signed contract.

But contract or no contract, you cannot obtain an injunction against them if they strike, either to keep them working for you or to prevent them from working for somebody else. Under the settled law, your only remedy is to sue them for damages for breach of contract. Since most employees are without financial resources, this remedy in most cases is no remedy.

I have always thought that this denial of the right of injunction where

injunction would do so much good, was a weakness of the law. It is a fundamental legal principle that there is no wrong without a remedy, but here is an oft-repeated wrong without—in most cases—any adequate remedy whatever.

The law is that there is no right of injunction against an ordinary employee like a clerk, or a bookkeeper, or a salesman or a mechanic, on the theory that the employer can easily fill their positions. Only against somebody like an opera singer, or an author, or a crack baseball player, whose place cannot easily be filled, can you get an injunction when he breaks a contract of employment.

I quote the following from a leading case:

In the case of contracts to render services requiring no special skill or qualifications, the rule still holds that a breach by the employee will not be enjoined, even though he has expressly agreed to work for no one else, or to devote all his time to the service of the complainant, but the reason for this is that other employees can be found to do the work and damages at law are adequate compensation for the breach of contract.

When one contracts to render special, unique or extraordinary services, requiring special merits or qualifications, or where the services are purely intellectual in their character and where in case of default the same services are not to be obtained from others, although equity will not interfere to enforce specific performance of the whole contract (that is, to make the employee continue working), yet because the damages will be irreparable it will exert its preventive powers and enjoin the employee from working for others or doing positive acts in violation of the contract.

So that when the ordinary employee quits his job and thereby violates his contract, he can only be sued for damages. What would the damages be? They would be the value of the business lost because he left, or the extra wages necessary to be paid to another employee to take his place—any loss following directly from the breach. But if the employer can go out and fill his place, even unsatisfactorily, for the same money, he can recover nothing, for there is no damage.

I feel sure that if the law-making body could forget politics for awhile and pass an act extending the right of injunction to the ordinary employee, so that if he would not work for you under his contract, he could not work for anybody else, many of the present labor problems would be solved. The members of labor unions are nowhere near as careful about their employment contracts as they would be if they knew their employer had a real remedy against violating them.

Can labor unions or others be gotten at for interfering between employer and employee; in other words, inducing an employee, who is under a

contract with his employer, to break it? They can, indeed, because it is against the law to interfere with *any* contract made by other persons. And there have been cases in which the courts have granted injunctions against labor unions who have done this. Any employer whose people are organized or are likely to be, should get signed contracts with every employee that he cares anything about. This, as explained, will not give him the right of injunction, but it will give him ground for action against anybody who persuades the employee to quit.

DIETETICS AND HEALTH

NOT A CHANCE!

I've been immunized against the pneumococcus;
I've been filled with bugs that battle with the flu;
Coughs and colds no more affright me, for their microbes seldom bite me,
And are harried from my system if they do.
But I dare not cross the street for fear a motor
Will approach me from behind and knock me flat.
So despite my best endeavor I don't think I'll live forever
For the doctors don't inoculate for that.

ONLY 143 YEARS MORE TO LIVE

In Maine there is a county that is facing gradual annihilation. In this county, where 18,000 persons make their homes, the death rate is higher than the birth rate. In some towns, the number of deaths is more than double the number of births.

After a few generations, at this rate of shrinkage, the residents will be as extinct as the dinosaur and the dodo. To be exact, the census figures of this county can suffer the inroads of the grim reaper for 143 years, but by that time even the census taker will have expired. Generations may be born, live, have progeny and die, but in the year 2,062, the last man of the last family of the last of the county's nineteen towns, will be no more.

This startling condition is all the more amazing when one learns that these people are nearly all native born Americans and are remarkably intelligent, progressive and fairly prosperous. Most of the inhabitants engage in that most healthful of occupations—agriculture. Lumbering and fishing also flourish. There are no manufacturing plants or factories.

In the schools, little attention is paid to health matters, although the teachers are progressive in other ways. The children come long distances

and bring their lunch. No attempt is made at serving a hot lunch or even hot drink, although many of these little folk leave home early in the morning and remain all day. The seats are the old-fashioned double type, and when the Red Cross made a recent survey of the county, adjustable seats were found only in one school. Running water was found only in rare instances and no provision was made for washing hands.

Very few children use a toothbrush and dental care is sadly neglected. The majority of the little people live so far from a dentist, that it appears the dentist will have to be brought to school. The boards of health in the towns are not active and little or no money is appropriated for health work. It is next to impossible to obtain the services of a graduate nurse, as there are only two or three in the county. There are a few domestic nurses but adequate nursing service is difficult to obtain.

When approached on the subject of a Public Health nursing service, the citizens for the most part were willing and anxious to assist. Red Cross Public Health nurses in these towns will nurse the sick, inaugurate medical inspection of school children, organize toothbrush drills and crusades for clean living, guard the welfare of expectant mothers and entrench the town against the inroads of all preventable disease. The advent of the nurse will do more than any other one factor to reverse the ghastly figures and make this county's birth rate exceed the death rate.

THE BEST OF CURRENT THOUGHT

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(Delayed in Printing)

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SOME TIMELY THOUGHTS ON PURE OPERATIVE DENTISTRY, WITH SPECIAL REFERENCE TO GOLD FOIL

By James Mark Prime, D.D.S., Omaha, Nebraska

(Read before the National Dental Association at Its Twenty-Second Annual Session, Chicago, Ill.)

The human mind and heart are always on the alert seeking something new and different. This is a good thing and, if properly directed, leads to discoveries and inventions. Discoveries or inventions may or may not be of value. Time usually tests their merit, and if such discoveries or inventions hold valuable truths and principles they will live even though for a time they be "crushed to earth they will rise again." If experience proves them of no value they will pass into the oblivion of a forgotten past.

Dentistry is fertile in fads and fadists. Many meteoric stars have suddenly illumined our vision, to pass as quickly away, leaving us blinded by their sudden brightness.

Operative dentistry has had its full share of pyrotechnics. On the other hand some of our best work has been done along operative lines. Of late, operative dentistry has not, in my opinion, been attracting the attention it so justly deserves. We speak of that part of operative dentistry which deals with repair of damages done by caries. To this Dr. Black adds pulp complications and the group of peridental diseases. We will speak of preventive measures only for the latter two.

How many in this room are practising operative dentistry after the principles laid down by our great predecessor, in whose memory we unveil a monument at this meeting? This carving of stone will speak to coming generations of this man's greatness, yet greater, infinitely greater, is the monument unveiled to us through the record of his life's work. Not the least among his valuable contributions are his masterful chapters on Operative Dentistry. Indeed, there was no better field in which his wonderful mind could work. This essay will be confined largely to that filling material with which, and through which, his genius found one of its most eloquent expressions.

Operative dentistry, as it deals with the repair of damages from caries, stands in the foreground as a most valuable service. It is second to one only. We must concede to dental prophylaxis our first great duty. By it we may prevent both caries and diseases of the peridental membrane. The operator who saves vital teeth, by permanent repair of damages from caries, surpasses the prosthetist, much as the surgeon who saves the leg surpasses the artificial limb manufacturer.

Is it not strange that the thing we are called upon to do most, and the thing wherein we perform the most valuable service to our patients (save one as mentioned) is the thing, as a rule, we do poorest? Might it not be explained by what the essayist once saw at a dental convention? A great crowd was pressing toward a table where a removable bridge was being demonstrated. At another where impressions for full dentures were being taken, it was impossible to get near. Seats were all occupied and standing room at a premium where a cleft palate operation was being performed. At the chair where a skilful demonstrator was doing prophylactic work there were two rather indifferent onlookers, and at the chair where a beautiful gold foil operation was being made there was one man, and he was assisting the operator. We seem to be bent on seeing something freakish, something new, an easier and quicker way to do things. This is well enough if, by so doing we are enabled to do them better.

Bridges, plates, pyorrhea, focal infection, surgery, root-canal fillings, etc., are all worthy our most serious thought. Methods that will, as nearly as possible, prevent the necessity for these are preëminently our first great duty. If it is worth three hundred dollars to cure a case of pyorrhea what is it worth to prevent it by prophylaxis? If a bridge, replacing a lost dental organ, is worth one hundred dollars, what is a permanent filling operation worth that will prevent it? Where does the trouble lie? Most people think it is with the public. We do not agree. We think the trouble is wholly with the dental profession, and will be so long as we have ethical members of our profession guilty of telling patients, in whose mouths are beautiful gold foil fillings, "that teeth will not stand pounded fillings, that the nerves will die in all teeth having pounded fillings."

Shame on the man who, through ignorance or dishonesty, spreads such falsehoods among ignorant patients. If he is present when the veil is rolled back from the statue of the great Black, his heart should ache with shame for having repudiated some of the most important and valuable teachings in our benefactor's life work. We believe the value of healthy dental organs, in their importance to the life and health of the patient, is appreciated more to-day than ever before. As this appreciation of their value grows upon us the more we cling to those proven methods for permanently preserving them.

This brings us to filling teeth with gold foil. This will immediately arouse disinterest in some, in others prejudice, and animosity in many.

When your committee wired me asking for this paper their message contained the suggestion that we are "drifting too far from basic principles." We agreed with the suggestion. I shall offer gold foil operations

as one of the basic things from which we have been drifting. To discuss the merits of gold foil operations does not condemn other methods and filling materials.

Successful dental operations consist in first the ability to determine what is indicated in the case at hand, second the ability to perform that operation well.

It is surprising to know the number of modern dental offices wherein gold foil and the necessary instruments for using it can not be found. What, a modern dental office and not supplied with the instrument and materials for making the best operation in a tooth known to our profession! Many confine their gold operations to the front teeth. These operations are the most difficult. We do not wonder at their becoming discouraged. Cavities in bicuspids, and molars are, as a rule, most advantageously filled with gold foil. They are made easily accessible in nearly all cavities, securing correct lines of force with the new instruments now designed, which we will describe in a later essay.

CAUTION IN USE OF DAM

As the dam must be applied in gold foil operations let us remember some dangers before us, if it is used carelessly.

We make a small hole in the dam, perhaps 1-20 the diameter of the tooth crown. We push the dam over it carrying the débris ahead of the dam. When we reach the most vulnerable spot in the human body we stop. This—the dental gingiva—is where the most prevalent of all human diseases finds its origin. Having scraped this infection off the tooth surfaces, we force a ligature past the contact down into the septal tissue, tearing the fibers, making an incision to further the infection, then we tie the ligature there. We lift up the dam and find we have the tissue blanched, the blood, nature's only means of fighting the infection is driven out, and we ask the patient to sit there until the infection is made sure.

PREPARE THE TEETH

Prepare the teeth over which you wish to place the dam, by spraying with warm germicidal solution. Scrub with cotton and paint with weak solution iodin.

BOIL THE RUBBER DAM

Use six inch dam, in six inch squares, and boil it in your sterilizer. Dry it between sterile napkins and when dry sprinkle boric acid or talcum powder on it. This will renew the soft velvety finish.

DON'T USE LIGATURE

Don't use ligature except where excessive decay compels you to do so. Use clamps cautiously, and then only where conditions make them imperative. Pass the ligature gently.

SIT DOWN

Now that we have the dam applied, have comfortable chairs for yourself and assistant and sit down.

HOLD THE FILLING DURING THE ENTIRE OPERATION

With the left hand use an assisting instrument during the entire operation. This accomplishes three things. When we start the filling with cohesive gold, it obviates cutting such deep convenience pits. It holds the tooth firmly in its socket, preventing the pumping in and out as the stepping of gold is being done. Holding the filling firmly in this manner saves the patient much discomfort. Lastly it gives greater density to the gold. The tooth held firmly will give greater density to the gold without increase of the hand or mallet force.

ARTICULATION

We have been making many errors in our operations involving the occlusal and incisal surfaces. One error is to trim them to comfort at time they are made. Another is to leave them over full and require the patient to use until they finally adjust themselves.

If those operations in the bicuspids and molars are ground to comfort at time they are made, the patient is robbed of part of his articulating surface. They are never right until the teeth exfoliate and this they may never do. If left too full, the tooth must move to secure articulation, and the contacts, as well as the investing tissues, are disturbed and injury may result. Best results can be secured only by a "working bite." When the patient is asked to close, he registers one position only and that is a conscious bite. When he bites his food he does so unconsciously, and by this unconscious working we wish to secure our articulation.

The human mouth is the only correct articulator. The filling is therefore left full and the patient is requested to return every few days. Those places showing where the filling is striking too hard are easily shown and trimmed at intervals until a splendid articulation is secured. This method should also be followed in the anterior teeth.

DO NOT OVER-POLISH OCCLUSAL SURFACES

Close examination of the unworn occlusal surfaces reveals a surface not highly burnished or polished. It is designed to hold the food as it grinds and cuts it. If this surface is over polished it does not functionate. All other surfaces should he highly polished. The occlusal surfaces should be smooth and sanitary, and true to form, but never highly polished. The best occlusal surfaces are secured by small fine grit stones.

COHESIVE GOLD ONLY SHOULD BE USED TO RESTORE OCCLUSAL SURFACES

Soft, unannealed gold has splendid advantages in the gingival third of approximal cavities and in deep occlusal, but should not be used to restore occlusal *surfaces*. True tooth form cannot be reproduced with soft foil. Even were we able to build the incline planes, pits and fissures of soft gold it would be too soft to stand the wear.

ADAPTATION TO CAVITY WALLS

We believe it is apparent to any thinking mind that better adaptation to cavity walls may be secured with gold foil than any other material. Indeed, gold foil is the only material with which we may use to our great advantage the elasticity of the dentin. Dentin is one of the most elastic substances known, and with gold foil we are able to spread the dentin and secure a permanent gripping of the tooth on the filling, thus securing an admirable adaptation of the gold to the cavity walls unknown in any other filling material. We thus secure a joint that is impervious to moisture, preventing the entrance of bacterial organisms, preventing tooth discoloration, and giving to the dental pulp the greatest possible protection.

STERILITY OF CAVITY WALLS

Doctor Black laid much importance to sterility of the cavity walls. The saliva is the most highly infected fluid of the body, and when the cavity walls become accidentally infected by it he advised cutting an entirely new surface with the chisel. When the cavity is prepared under sterile conditions, gold foil offers an ideal material with which this sterility may be maintained. The gold fresh from the flame in a most completely sterilized condition is placed at once against the dry, fresh, sterile walls and wedged securely to adaptation. A sterile material wedged securely against sterile walls, excluding all moisture and bacteria, is perhaps as nearly ideal as we have yet attained.

SECURING SEPARATION AS WE BUILD THE FILLING

No other filling material offers this very convenient feature. This, of course, can be employed only where a limited amount of separation is necessary. When a considerable degree of separation is necessary the Perry mechanical separator should be employed. But where, as in the ordinary case, a small amount is required, the gold is all sufficient.

HARDNESS AND WEAR RESISTANCE

It is well to mention that malleted cohesive gold possesses high specific gravity and is very hard and wear-resisting. It offers, therefore, the best protection to the enamel margins afforded by any of the filling materials. It offers a surface second to none in its resistance to occlusal wear. And we know of no other material, save porcelain, with which a more enduring proximal surface and contact point may be made.

RESTORING TOOTH FORM

Last, but not least, cohesive foil is the king of filling materials with which the very valuable tooth forms may be most beautifully reproduced. In the restoration of the normal occlusal forms this material works most beautifully. The grooves, pits, incline planes, and cusps are easily reproduced with small pellets using the various plugger points as the operation is built up and finished. No more beautiful forms are possible in inlays or amalgam than may be made with this wonderful filling material. The other surfaces, and forms so vital to physiological function, are likewise as easily and positively reproduced.

It is not the purpose of this essay to condemn the porcelain or gold inlay. Both the direct and indirect methods hold many possibilities. We should dislike to part with them in our practice. We are not in any sense condemning the use of amalgam. We consider it a valuable material and we would not want to practice without it. This is what we do wish to emphasize: That gold foil is not a "lost art" but when properly understood will rapidly come to its own. Already the disgraceful results of easy, slip-shod methods are becoming apparent. Interest everywhere is becoming aroused for safer, saner and surer methods.

Gold foil offers a surer and safer method in a wide range of cavities. Gold foil technic should be thoroughly mastered in our colleges, demonstrated in our societies, taught in our study clubs, and more generally employed in our offices. We have not gone into the technic for manipulating gold foil. That is a long essay itself.—*Journal National Dental Association.*

FUTURE EVENTS

The next meeting of the South Dakota State Board of Dental Examiners will be held in Sioux Falls, South Dakota, January 7, 8, and 9, 1920, beginning promptly at 9:00 A. M. January 7th.

All applications must be in the hands of the Secretary by January 1st. Fee for examination $25.00. No reciprocity or interchange. Full information and application blanks may be received by addressing

L. S. SPENCER, *Secretary*,
Watertown, So. Dak.

The Montana State Board of Dental Examiners will hold their regular examinations at Helena, Montana, January 12, 1920. Applications should be in the hands of the Secretary at least ten days before the examinations.

T. M. HAMPTON, D.D.S., *Sec'y*,
Helena, Montana.

The Delaware State Board of Dental Examiners will meet for the purpose of examining candidates for license to practice in Delaware, at Wilmington, Municipal Bldg., January 14th and 15th, 1920, at 9 A. M.

For further information, address WARREN S. P. COMES, *Sec'y*, Middletown, Delaware.

The next annual meeting of the American Institute of Dental Teachers will be held at Detroit, Michigan, January 27, 28 and 29, 1920. Hotel Statler will be the headquarters.

A cordial invitation is extended to all persons interested in dental teaching

DR. RUSSELL W. BUNTING, *President*,
DR. ABRAM HOFFMAN, *Secretary*,
381 Linwood Avenue, Buffalo, N. Y.

The next annual meeting of the Alumni Society of the Dewey School of Orthodontia will be held on April 1, 2, 3, 1920, at the Edgewater Beach Hotel in Chicago.

The usual high standard of the meetings of this Society will be maintained. One half day will be devoted to clinics. All interested in Orthodontia are cordially invited to attend these meetings.

GEORGE F. BURKE, *Secretary*,
741-43 David Whitney Bldg.
Detroit, Michigan.

The next annual meeting of the American Society of Orthodontists will be held at the Edgewater Beach Hotel, Chicago, Ill., Monday, Tuesday and Wednesday, April 5, 6, and 7, 1920. Those interested in Orthodontia are invited to attend.

F. M. CASTO, D.D.S., *Secretary*.